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*RESEARCHERS, *RESEARCH METHODOLOGY, *RESEARCH SKILLS, RESEARCH TOOLS, *SUMMER PROGRAMS, *EDUCATIONAL EXPERIMENTS, DESIGN, QUESTIONNAIRES, PROGRAM EVALUATION, GRADUATE STUDY, MADISON, WISCONSI

A SUMMER PROGRAM IN THE DESIGN AND ANALYSIS OF EDUCATIONAL EXPERIMENTS WAS HELD AND ITS RESULTS REPORTED. EXPERIMENTAL DESIGN, STATISTICAL ANALYSIS, COMPUTER USAGE, PREPARATION OF RESEARCH PROPOSALS, SPECIAL TOPICS, AND INDEPENDENT STUDY WERE DISCUSSED. TO AID IN THE EVALUATION OF THE PROGRAM, EACH OF THE 30 PARTICIPANTS ANSWERED A QUESTIONNAIRE ABOUT A YEAR LATER. ANSWERS TO THE CATEGORICAL QUESTIONS SHOWED THAT NEARLY ALL (29) OF THE PARTICIPANTS FELT THEMSELVES BETTER ABLE TO DESIGN EXPERIMENTS AND TO ANALYZE DATA RESULTING FROM THEM. IN GENERAL, IT APPEARED THAT THIS KIND OF INSTITUTE WOULD BEST SERVE ABLE, YOUNG POSTDOCTORAL EDUCATIONAL RESEARCHERS WHO DID NOT HAVE EXCELLENT PREPARATION IN EXPERIMENTAL DESIGN, STATISTICS, AND DATA PROCESSING DURING THEIR GRADUATE WORK. (GD)

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FINAL REPORT

Project No. X-005

Grant OE5-10-272

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BENEFITS OF RESEARCH DESIGN; A PILOT STUDY

August 1966

U.S. DEPARTMENT OF
HEALTH, EDUCATION AND WELFARE

Office of Education
Bureau of Research

BENEFITS OF RESEARCH DESIGN; A PILOT STUDY, FINAL REPORT

Julian C. Stanley

Project No. X-005

Grant No. OE5-10-272

August 1966

The research reported herein was performed pursuant to grant with the Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

UNIVERSITY OF WISCONSIN

Madison, Wisconsin

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U. S. Office of Education Developmental Activities Program

Final Report on Project No. X-005

Project Title : Benefits of Research Design; a Pilot Study

Project Director: Julian C. Stanley, Professor of Educational Psychology, University of Wisconsin (1404 Regent Street, Madison, 53706)

Dates of Project: 1 December 1964 - 31 August 1966

Summary

This summer program in the design and analysis of educational experiments was held at the University of Wisconsin in Madison during the eight-week period 21 June - 14 August 1965. The staff consisted of Richard E. Schutz and Julian C. Stanley, Co-Directors; Frank B. Baker, specialist in electronic computers and data processing; Gene V. Glass, instructor in statistics; and six graduate-student teaching assistants. There were 14 predoctoral and 16 postdoctoral participants, one of them from Australia. Two predoctoral and two postdoctoral participants were women. (The names and background information about the staff and participants appear in Appendix A of the final project report.)

Experimental design, statistical analysis, and computer usage were discussed each morning, Monday through Friday. Preparation of research proposals, special topics, and independent study occupied the afternoons and Saturday mornings. Resources of the University of Wisconsin, including its Laboratory of Experimental Design, were available to each participant.

One academic year after the close of the program, 29 of the 30 participants indicated on a questionnaire that they believed they seemed abler this academic year, because of the program, to design experiments, and 29 felt abler to analyse data resulting from experiments.

Sixteen of the 30 participants completed one or more experiments during the academic year 1965-66. Twenty-four of them "served as a consultant on the design and analysis of experiments" after the close of the program. To the question, "To what extent did the summer program seem to help you as such a consultant?," 0 responded "None," 0 responded "Little," 7 responded "Moderately," 17 responded "A great deal," and 6 did not check any one of the four categories.

Exactly half of the participants marked that they had "collaborated substantially with others (either colleagues or students) on experiments since August 13" of 1965. Twenty-six said they had consulted on or collaborated on or pursued alone " research not strictly classifiable as controlled, variable-manipulating experimentation," and 21 responded "Yes (vs 4 "No") to the question, "If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise?"

To the question, "Everything considered, how glad are you now that you spent the eight weeks in Madison?," the responses were as follows:
0 I'm sorry I did. 2 Neutral: neither glad nor sad. 2 It was worthwhile.
19 I benefited a great deal. 7 It was a hugely rewarding experience.

Other responses to the questionnaire are shown in Appendix E of the final report.

Though it is quite difficult indeed, especially only a year after the end of the program, to determine what effects the collaboration of the participants with the staff for eight weeks had, it would appear that the progress of most of the predoctoral participants toward the doctorate has been facilitated and that the professional promise of a considerable number of the participants has been enhanced. Many more six- or eight-week summer institutes seem needed, particularly for professional personnel under the age of 40 who already have a doctorate. The areas of statistics, measurement,

experimental design, and data analysis seem to lend themselves well to such treatment, although (as Lee J. Cronbach and others showed at Stanford University during the summers of 1964 and 1965) institutes organized around actual empirical research are highly desirable, too.

Introduction

Evaluating the effects of a summer program on the future careers of the participants is difficult. Persons who seek out such experiences are already likely to be energetic, successful achievers in later life. The postdoctoral ones have already embarked on careers, so each twig is bent in a rather definite direction before the participant arrives for the program. The predoctoral participants are already committed to certain institutions and certain programs therein, and they will be preoccupied with doctoral requirements for one or more years following the program, thereby delaying the appearance of most evidences of its impact on them.

Eight weeks is a short time in one's life, so miracles of learning and redirection should not be expected from a program lasting only this long. Even if the program does have considerable cumulative influence on a person's career, this may be slow in appearing and so interactive with other influences that it cannot be discerned clearly by the person himself or by others.

Nevertheless, we must use whatever evidence that can be adduced to determine whether or not such programs are worth repeating and, if so, how they should be modified in order to be more effective. Ideally, in the experimental-design sense, we should conduct the program as a controlled experiment, with a well-matched control group that does not attend the institute, and follow up both groups for quite a few years in order to determine how they diverge. If recruiting begins early enough and the applicant group is able enough to provide both groups at a sufficiently high level, this might be done, though the "reactivity" of the disheartened rejectees, the self-fulfilling prophecy of the accepted persons, and the inability to control the summer activities of the rejectees, might undesirably affect the outcome of the experiment. Merely having on one's record the fact of attending a certain prestigious program, like displaying one's Phi Beta Kappa key, might be a powerful aid. We can hardly falsify the record (or award honor-society keys at random), so perhaps at best we could compare participation in two quite different types of summer programs of equal prestige, attended by persons assigned randomly to one or the other.

In the present pioneering developmental effort we chose to take the seemingly best-qualified 30 persons from the applicants, thereby ruling out the possibility of having a meaningful control group. (See Appendixes A and B.) Our chief way of evaluating the success of the program is via reports from staff and participants, particularly the latter. In the progress report for the period 1 July - 30 September 1965 (see Appendix C) we summarize results from the questionnaire completed by the participants at the end of the program, on 13 August 1965. The briefer progress report for the 1 October 1965 - 30 June 1966 (see Appendix D) summarizes several further activities.

Questionnaire Responses One Academic Year Later

On 17 May 1966 we sent to each of the 30 participants the questionnaire shown in Appendix E and, after several follow-ups of nonrespondents, received usable replies from all 30. Answers to the categorical questions showed that nearly all (29) of the participants felt themselves better able to design experiments and to analyze data resulting from them. Most of them (24) had served as a consultant on the design and analysis of experiments during the year, but only about half (16) had "begun or completed any experiments since 13 August 1965." Seventeen of the 24 felt that the summer program had helped them as consultants "a great deal," and the other seven "moderately."

Exactly half of the participants had collaborated with others on experiments since leaving the program. Twenty-six of them had engaged in "research not strictly classifiable as controlled, variable-manipulating experimentation," and 21 checked that the summer program helped them do this better than they would probably have done otherwise.

Only six have published or have "in press" anything affected, directly or indirectly, by the summer-program participation, but of course not enough time elapsed from 14 August 1965 until May or June of 1966 to allow most persons to complete an article, book, or monograph and have it accepted for publication. Four had manuscripts arising partly from the program under consideration by editors. Nine had other completed reports that were affected by the summer program.

Eight had secured research contracts or grants subsequent to 13 August 1965, ranging in amount up to $605,000. Twelve had secured fellowships or research assistantships for themselves or their students. A virtually rectangular distribution resulted from responses to the four ordered categories of the question at the top of page 3 of the questionnaire: four persons felt that the summer program helped them "None" to secure the contracts, grants, fellowships, and/or research assistantships, five checked "Little," four checked "Moderately," and five checked "A great deal."

Six of 29 persons responding to the item indicated that their attendance at professional conventions seems to have increased, at least partly because of the program. Of the 13 who presented or coauthored papers at these conventions, five indicated that these papers were affected "None" by their activities during the 1965 summer program, two checked "Little," four checked "Moderately," and two checked "A great deal." The summer program came too late to permit submitting papers for most fall conventions, such as that of the American Psychological Association. Convention activity of the participants seems likely to grow in future years, even though only four persons indicated that they are "scheduled to appear on future convention programs."

Of the 14 persons who taught courses with quantitative content during the year, 12 checked that they had done so better because of the summer program.

The overall evaluation of the program after one academic year was sought with the final item on the questionnaire: "Everything considered, how glad are you now that you spent the eight weeks in Madison?" No one checked that he was sorry he did. Two checked "Neutral: neither glad nor sad." Two checked "It was worthwhile." Nineteen indicated that "I benefited a great deal." Seven said "It was a hugely rewarding experience."

Comments by respondents to the other items were illuminating but so varied that categorization is difficult. The majority who had attended any professional convention had gone to the American Educational Research Association meetings in Chicago, 17-19 February 1966. The names of five appeared on that program, three of them twice. One participant presented a paper at the concurrent convention of the National Council on Measurement in Education. Apparently the participants are not strongly affiliated with psychology, because only two of them had their names on the September 1965 convention program of the American Psychological Association, and just one on the September 1966 American Psychological Association program. Only two of the participants, both of them predoctoral, had academic backgrounds strictly in psychology, and both of these had already inclined toward educational research, despite the fact that announcements concerning the program went to all members of the Divisions of Developmental Psychology, Educational Psychology, and School Psychology of the American Psychological Association. Competition from Lee J. Cronbach's 1965 summer institute at Stanford University, which was substantively rather than methodologically oriented, may have been partly responsible for this, because his program may have appealed more to academic psychologists (who are usually reasonably well prepared in statistics and measurement) than did ours.

A number of responses were received to the open-ended question, "How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments?" Most of these suggestions had appeared in the end-of-program evaluation in greater detail and had been summarized in the 1 July - 30 September 1965 progress report (see Appendix C). More emphasis on associational studies and substantive research was called for. The persons less well prepared in statistics felt the need for a systematic set of lectures at a more intermediate level than was required by most of the participants. More use of the participants' resources and skills should have been made. Some wanted the afternoon sessions more structured. Several postdoctoral participants objected to administration of the Doppelt Mathematical Reasoning Test, even though this was on a voluntary basis and only 11 of the 16 postdoctoral participants chose to take it. The request for more time in which participants could interact informally seemed to conflict with the requests for more formal structure, indicating that not all participants wanted the same approach.

As might be expected, thus far the professional activity and productivity of the postdoctoral participants greatly exceeds that of the predoctoral ones, especially because nearly all of the latter went from the program right back into doctoral programs and became preoccupied with progressing toward the Ph.D. degree. Predoctoral participants were selected on the basis of test scores and academic records, whereas postdoctoral participants were not chosen directly in this way, so it seems likely that in the long run the predoctoral participants will become as effective educational experimenters as the postdoctoral participants. In addition, the predoctoral participants now know quite a few nationally prominent educational researchers who can help them with their careers.

The beneficial "fallout" of the program for the University of Wisconsin was, unintentionally, rather great. Three predoctoral participants shifted there, one in the fall of 1965 to continue her doctoral studies in counseling and guidance and two in the fall of 1966, one of these to be a postdoctoral fellow in the Research and Development Center for Learning and Re-Education and the other to be an assistant professor of mathematics education.

One of the postdoctoral participants is spending the academic year 1966-67 at the University of Illinois, working with one of the 1965 summer-program instructors there. One of the summer-program instructors is moving to the University of Colorado in the fall of 1967 to work with a postdoctoral participant whom he met at the summer program. One postdoctoral participant moved in the fall of 1966 to The Ohio State University to work with another postdoctoral participant there. Undoubtedly, other position changes at least partly attributable to the program have already occurred or will occur. All of these resulted outside the planned structure of the program.

It seems likely that having on one's record the fact of attendance at the eight-week summer program in the design and analysis of educational experiments at the Laboratory of Experimental Design of the University of Wisconsin and, for several predoctoral participants, grades of "A" for course work there have already been considerable stimuli for promotions, salary increases, securing of grants, etc., and will continue to be so in the future. Participants are likely to benefit professionally from being able to say that they have studied with (as staff or participants) a number of well-known educational researchers. They are more likely now to learn of opportunities for professional advancement, including positions, research projects and refresher courses. The initiative these participants showed by applying for the program and attending it virtually guarantees that many of them will make distinctive professional contributions. A follow-up of the thirty persons in 1975 should be illuminating.

Conclusions

In general, it would appear that this kind of institute should serve best these able, young postdoctoral educational researchers who did not have excellent preparation in experimental design, statistics, and data processing during their graduate work. It seems desirable not to include persons who were exposed to strong methodological graduate programs, even though these did not seem to "take." Also, persons whose publications indicate strong specialization in non-experimental areas such as as psychometrics are likely to be dissatisfied with emphasis on the design and analysis of controlled, variable-manipulating experiments and to press for greater attention to their favorite topics. Because not everything can be covered well in eight weeks, delimitation of material to be discussed seems essential. Getting participants before they become dedicated to a non-experimental methodology seems necessary, if the focus is to be on experimentation.

Appendix A

Project No. X-005

Developmental Activities Program
Submitted to the U. S. Commissioner of Education
Under the Provisions of Public Law 531

Project Title: Benefits of Research Design; A Pilot Study

Submitted By: University of Wisconsin, Madison, Wisconsin

Initiated By: Julian C. Stanley, Director of the Laboratory of Experimental Design and Professor of Educational Psychology, University of Wisconsin, 502 State Street, Madison, Wisconsin 53703

Telephone Number: 608-262-1573

Transmitted By:

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Staff Liaison: Dr. Glenn C. Boerrigter
Research Coordinator
Basic Research Branch
Cooperative Research Branch
U. S. Office of Education
Washington, D. C. 20202

Date Transmitted: 4 June 1964

Date Revised: 26 October 1964

1. Abstract.

a. Objectives: The purpose of this project is to determine the benefits of a pilot research-design program that focuses on new methods of experimental design and statistical analysis for educational research. The eight-week session is meant to upgrade the research skills of 14 educational researchers who already hold the Ph.D. or Ed.D. degree and to strengthen the preparation and aspirations of 14 predoctoral graduate students who are preparing to do educational research. Emphasis will be on the careful designing of controlled variable-manipulating experiments in the field of education, broadly defined, with analytical procedures considered as flowing from the experimental design. Outcomes of the project will be evaluated carefully.

b. Procedures: The pilot project will be publicized widely via newsletters of professional organizations, professional journals, and direct mail announcements. The 28 consultants should come from various areas of education and should have varying amounts of research experience, from much to little.

The consultants will meet together each morning from 8:30 until 11:30, Monday through Friday, for lecture-discussion sessions on the following topics: principles and problems of experimentation under school conditions, measurement in experimentation (including multivariate analysis), uses of electronic computers in experimentation, and the designing of research projects. From 1:00 until 4:00, Monday through Friday, they will work in 7 small mutual-interest groups, each composed of 2 predoctoral and 2 postdoctoral persons. Each such group will have assigned to it for 4 hours daily a well-prepared advanced graduate student from the University of Wisconsin's Laboratory of Experimental Design who will help the 4 group members with technical problems of all sorts, including searches of the professional literature. Each group will develop one or more substantial research proposals to be considered by everyone during the last several weeks of the seminar. It is expected that by the end of the summer a number of these proposals (perhaps as many as half of them) will be ready to submit to Federal agencies such as the U. S. Office of Education. The predoctoral consultants will meet on Saturdays, also. This eight-week summer program, the first of its kind, will be evaluated to determine the benefits that accrue to participants and to provide recommendations for subsequent research-training projects throughout the country.

2. Description of the Activity.

It is evident to persons who review research proposals for the U. S. Office of Education that nearly all projects have serious flaws in their experimental designs and analytical procedures, reflecting deficiencies in the preparation of their authors. Newer, more relevant techniques are seldom used, and older techniques are applied inappropriately. Confusion exists when interpreting associational relationships, where both variables are free to vary without control by the experimenter, and functional relationships, where one variable is under the control of the experimenter and manipulated by him--roughly, the matter of correlation vs. "causation." Comments by reviewers frequently are not understood by authors when relayed to them, because the latter lack the fundamental background in experimental design necessary to learn the new concept. For several years the Cooperative Research Branch coordinators have tried to upgrade the experimental-design sophistication of proposers. Their heroic efforts have not been wholly unsuccessful, but it has become obvious to them and to referees of proposals that only better programs in universities across the country can improve the quality of the experimental designs and analyses proposed.

Can an intensive eight-week program for 28 able, well-motivated consultants, half of them postdoctoral and the other half predoctoral, help them learn newer techniques and become better researchers? Will they use their new knowledge effectively with their own doctoral students? It might be desirable to have one or more such seminars each summer for several years; the first one should serve as a pilot model, an evaluation device, and a generator of further interest.

The pilot program would be a 40-day work session for the postdoctoral consultants and a 48-day work session for the others. In this amount of time with skilled staff it should be possible to improve the experimental-design ability of the consultants considerably and to show them how they can continue learning on their own in subsequent years. Less than the 40 and 48 days of classes, discussion, and small-group activity would seem too short a period in which to accomplish these two objectives.

3. Related Literature.

The proposed pilot project seems most closely related to three that the Social Science Research Council conducted about a decade ago, a pilot program on mathematics for social scientists at Dartmouth College during the summer of 1953 and two such programs (at the University of Michigan and Stanford University) for nine weeks during the summer of 1955. The present initiator was a postdoctoral fellow in the program at Ann Arbor, where he learned a great deal about probability theory, set theory, matrix theory, and advanced calculus.

A number of statistics departments, such as the ones at Iowa State University and Virginia Polytechnic Institute, offer regular summer-session institutes in statistics, though not with emphasis on research in the social sciences.

During the summer of 1964 at Stanford University, Professor Lee J. Cronbach conducted a large seminar concerned with research in teaching. Its emphases seemed to be considerably more substantive than methodological. In the proposed pilot project the staff would emphasize principles of experimental design and analysis applied to whatever substantive interests the participants bring with them and would assess the results of the eight weeks spent with the consultants.

Lindquist (1953), Campbell & Stanley (1963), Stanley (1954, 1955, 1956, 1957A, 1957B, 1958, 1960, 1961A, 1961B, 1961C, 1962, 1963A, 1963B, 1964A, and 1964B), Stanley & Beeman (1958), Pella et al. (1962), Stanley & Wiley (1962), Schutz, Page, & Stanley (1962), Page (1958), Travers (1964), and others have written about experimentation under school conditions. Considerable discussion can also be found in other chapters of Gage (1963) and in Harris (1960). Pertinent sources less directly related to educational experimentation are Edwards (1960), Ray (1960), Cox (1958), Cochran and Cox (1957), Winer (1962), McNemar (1962), Hays (1963), and

Fisher (1935). The Campbell-Stanley chapter and the Schutz-Page-Stanley curriculum guide should be good beginning materials for the lecture-discussion morning sessions of the institute. Most of the above materials, and others, will be used during the institute. Probably the books by Cox and Winer will be purchased by each participant and covered systematically.

References

Campbell, Donald T., & Stanley, Julian C. Experimental and quasi-experimental designs for research on teaching. Chapter 5 (pp. 171-246) in N. L. Gage (Editor), *Handbook of research on teaching*. Chicago: Rand McNally, 1963.

Cochran, William G., & Cox, Gertrude M. *Experimental designs*, 2nd ed. New York: Wiley, 1957.

Cox, David R. *Planning of experiments*. New York: Wiley, 1958.

Edwards, Allen L. *Experimental design in psychological research*, rev. ed. New York: Holt, Rinehart and Winston, 1960.

Fisher, Ronald A. *The design of experiments*. New York: Hafner, 1935 and subsequent editions and reprintings. This is the classic source, which grew out of Fisher's *Statistical methods for research workers* (Edinburgh: Oliver & Boyd, 1925 *et seq*.).

Gage, N. L. (Ed.) *Handbook of research on teaching*. Chicago: Rand McNally, 1963.

Harris, Chester W. (Ed.) *Encyclopedia of educational research*, 3rd ed. New York: Macmillan, 1960.

Hays, William L. *Statistics for psychologists*. New York: Holt, Rinehart and Winston, 1963.

Lindquist, E. F. *Design and analysis of experiments in psychology and education*. Boston: Houghton Mifflin, 1953.

McNemar, Quinn. *Psychological statistics*, 3rd ed. New York: Wiley, 1962.

Page, Ellis B. Teacher comments and student performance: a seventy-four classroom experiment in school motivation. *J. educ. Psychol.*, 1958, 49, 173-181.

Pella, Milton O.; Stanley, Julian C.; Wedemeyer, Charles A.; & Wittich, Walter A. The use of the White films in the teaching of physics. *Science Education*, 1962, 46, 6-21. (Feb., No. 1.)

Ray, William S. *An introduction to experimental design*. New York: Macmillan, 1960.

Schutz, Richard E.; Page, Ellis B.; & Stanley, Julian C. *Curriculum guide for a course in educational media research*. Final report, N.D.E.A. Title VII (Educational Media Branch, U. S. Office of Education) Project No. B-236, of which Julian C. Stanley was the Director. Mimeographed with printed cover, October 1962. Pp. ii + 105.

Stanley, Julian C. Gellerman's complex crossover design. *J. consult. Psychol.*, 1954, 18, 380. (Oct., No. 5.)

Stanley, Julian C. Statistical analysis of scores from counterbalanced tests. *J. exp. Educ.*, 1955, 23, 187-207. (Mar., No. 3)

Stanley, Julian C. The interdependent roles of research and evaluation in teaching. *Educ. Leadership*, 1956, 13, 419-424. (Apr., No. 7.)

Stanley, Julian C. Controlled experimentation in the classroom. *J. exp. Educ.*, 1957A, 25, 195-201. (Mar., No. 3.) Reprinted on pages 209-218 of Jerome M. Seidman (Editor), *Educating for mental health*. New York: Crowell, 1963.

Stanley, Julian C. Research methods: experimental design. *Rev. educ. Res.*, 1957B, 27, 449-459. (Dec., No. 5.)

Stanley, Julian C. A partially annotated supplemental bibliography of "Research Methodology: Experimental Design." *Psychol. Newsltr, N.Y.U.*, 1958, 9, 108-117. (Jan.-Feb., No. 3.)

Stanley, Julian C. Interaction of organisms with experimental variables as a key to the integration of organismic and variable-manipulating research. Edith M. Huddleston (Ed.), *17th Yrbk Natl Coun. on Meas. in Educ.*, 1960, 7-13. East Lansing, Michigan: Dr. Irvin J. Lehmann, Secretary, NCME, Michigan State University.

Stanley, Julian C. Studying status vs. manipulating variables. Chapter VI (pp. 173-208) in Collier, Raymond O., Jr., & Elam, Stanley M. (Editors), "Research design and analysis," the *Second Annual Phi Delta Kappa Symposium on Educational Research*. Bloomington, Indiana: Phi Delta Kappa, 1961A.

Stanley, Julian C. Analysis of unreplicated three-way classifications, with applications to rater bias and trait independence. *Psychometrika*, 1961B, 26, 205-219. (June, No. 2.)

Stanley, Julian C. (Editor), Symposium: Interactions in psychometrics and experimentation. *Educational and Psychological Measurement*, 1961C, 21, 791-858. (Winter, No. 4.) "Introduction," pp. 793-795. "Analysis of a doubly nested design," pp. 831-837; 1962, 22, ii. Based on a symposium of the same title presented at the annual meetings of the American Psychological Association in Chicago, Illinois, on September 7, 1960. See *American Psychologist*, 1960, 15, 490. (July, No. 7.)

Stanley, Julian C. Analysis-of-variance principles applied to the grading of essay tests. Journal of Experimental Education, 1962, 30, 279-283. (Mar., No. 3.)

Stanley, Julian C. Introduction to proposals of consultants for the improvement of research in handwriting. Pages 239-241 in Virgil E. Herrick (Editor), New horizons for research in handwriting. Madison: University of Wisconsin Press, 1963A.

Stanley, Julian C. Facilitating classroom experimentation. Twentieth Yearbook of the National Council on Measurement in Education, 1963B, pp. 24-26.

Stanley, Julian C. A paradigm for classroom experimentation. Amer. Psychologist, 1964A, 19, 64-65. (Jan., No. 1.)

Stanley, Julian C. Alternative procedures to matching. Mental Retardation Abstracts, 1964B (in press).

Stanley, Julian C., & Beeman, Ellen Y. Restricted generalization, bias, and loss of power that may result from matching groups. Psychol. Newsltr, N.Y.U., 1958, 9, 88-102. (Jan.-Feb., No. 3.)

Stanley, Julian C., & Wiley, David E. Development and analysis of experimental designs for ratings. Final report on Project No. 789 to the Cooperative Research Branch of the U. S. Office of Education. Mimeographed with hard covers, June 1962. 63 pages.

Travers, Robert M. W. An introduction to educational research, 2nd ed. New York: Macmillan, 1964.

Winer, Benjamin J. Statistical principles in experimental design. New York: McGraw-Hill, 1962.

4. Objectives.

The immediate objective of the pilot project is to determine in what ways and how effectively one in eight weeks can improve the competence of the 28 consultants in designing and analyzing educational experiments, with special attention to principles and problems of experimentation under school conditions, measurement in experimentation (including multivariate analysis), uses of electronic computers in experimentation, and preparation of research proposals. An intermediate objective is to improve educational experimentation in the United States through the influence of the 28 consultants and the pioneering value of the pilot project as a method for upgrading research abilities rapidly.

5. Procedures.

The pilot project would be held for eight weeks during the summer of 1965, probably June 21 - August 13, at the University of Wisconsin, Madison, Wisconsin. From 8:30-11:30 a.m. Monday through Friday the consultants would meet in a comfortable classroom for lectures by faculty members and discussions. Approximately 50% of the 120 morning hours would be devoted to principles and problems of experimentation under school conditions. About 25% would be devoted to measurement in experimentation, including multivariate analysis. The remaining 25% would be devoted to computer technology (15%) and systematic consideration of the preparation of research proposals (10%). A main purpose of the project would be to determine whether these are the optimum percentages for such a program.

The 120 afternoon hours, from 1:00 until 4:00 p.m. Monday through Friday, would be devoted to small-group work (4 participants and one assistant in each group), principally the preparation of research proposals for well-designed studies. Faculty members of the institute would consult with these 7 groups.

In addition, the predoctoral consultants would meet on Saturdays.

A library of books, journals, and reprints would be set up from the Laboratory of Experimental Design's holdings for the convenience of participants to supplement the collections in the University of Wisconsin libraries, to which all participants would have access.

The success of the institute would be evaluated in several ways:

1. By response of the participants, anonymously, to a questionnaire the last day and to another questionnaire 9-12 months later.

2. By initial and final examinations covering the four principal lecture-discussion areas.

3. By evaluation of U. S. Office of Education observers.

4. By ratings of the faculty members and assistants of the institute.

5. By an analysis of the quality of the research proposals produced, especially as reflected by the percentage of them that are submitted to a Federal agency and approved.

6. By systematic comparison of the performance of predoctoral consultants with that of postdoctoral consultants.

Steps in carrying out the proposal are as follows:

1. 1 December 1964 - 31 March 1965. With the help of a half-time secretary and a half-time administrative assistant, publicize the pilot project widely. Prepare application forms. Carry on correspondence with professional associations, journals, and prospective consultants. Final selection of consultants would be made by April 1.

2. 1 April 1965 - 31 May 1965. Half-time secretary and half-time administrative assistant would make arrangements for the consultants, including housing, and would gather materials and equipment for the summer project, including books for the consultants and for the special collection of books, journals, and reprints. The initiator (JCS) would devote 50% of his time the second semester to studying the topic of experimentation under school conditions and to consultation with the faculty members and assistants for the pilot project in order to set up a comprehensive syllabus to guide the lecture-discussion morning sessions and the proposal-designing afternoon sessions. In mid-February, Professor Stanley will conduct a symposium on experimentation in educational settings at the annual convention of the American Educational Research Association in Chicago.

3. 1 June 1965 - 31 August 1965. With the assistance of a full-time secretary, a full-time administrative, graduate assistants, consultants, and three other staff members, the initiator (JCS) would direct the pilot project, including preliminary arrangements and subsequent "clean-up" activities, 100% of his time.

4. 1 September 1965 - 31 August 1966. The initiator (JCS) would prepare a report and evaluation of the pilot project, using 30% of his time for this purpose. The evaluation would involve all of the procedures mentioned earlier in this proposal. (Also, in November of 1965 Professor Stanley will stage a two- or three-day national seminar on experimentation in educational settings, sponsored by Phi Delta Kappa.)

6. Personnel.

Julian C. Stanley, Director of the Laboratory of Experimental Design and Professor of Educational Psychology, University of Wisconsin, would direct the pilot project. Dr. Stanley has been a professor at the University of Wisconsin since 1957. He is a Fellow of the Divisions of Evaluation and Measurement, Educational Psychology, General Psychology, Teaching of Psychology, and Maturity and Old Age of the American Psychological Association, and a Fellow of the American Association for the Advancement of Science. He was President of the National Council on Measurement in Education (1963-64) and the Tennessee Psychological Association (1951). He is a Director of the Psychometric Society (1962-65), a Representative to the APA Council from the Division of Evaluation and Measurement (1963-66), a member of the Research Advisory Council of the U. S. Office of Education, a member of the Committee of Examiners for the Aptitude Tests of the College Entrance Examination Board, a member of the Research Committee of Educational Testing Service, and a trustee of Test Research Service. He was Secretary-Treasurer of the Division of Educational Psychology of the American Psychological Association (1960-63), which he now serves as President-Elect. He is also Vice-President of the American Educational Research Association, chairing the Division of Measurement and Research Methodology. Dr. Stanley is a member of numerous other professional organizations, including the American Statistical Association and the Institute of Mathematical Statistics. He is a consulting or advisory editor for the Journal of Educational Psychology, the American Educational Research Journal, and the Journal of Educational Measurement. He is the author of 125 articles, notes, and reviews and of a textbook, Measurement in Today's Schools

(Prentice-Hall, 4th edition, 1964). Besides earning a doctorate in educational psychology from Harvard University (February 1950), he has studied at the University of Michigan (mathematics, 9 weeks, summer of 1955), the Department of Statistics of the University of Chicago (11 months, 1955-56), and the University of Louvain, Belgium (Fulbright Act Research Scholar, 1958-59). He has taught at the University of Georgia (summer of 1947), Harvard University (1948-49 and summer of 1963), George Peabody College for Teachers (1949-53), the University of Wisconsin (1953-present), and the University of Hawaii (summer of 1960), in addition to the Atlanta (Georgia) high schools (science and mathematics, 1937-42) and Newton (Massachusetts) Junior College (psychology, part-time, 1946-48). He is listed in Who's Who in America and American Men of Science. His special interests are experimental design and measurement.

Dr. Richard E. Schutz, Professor of Educational Psychology at the University of Arizona (Tempe), has agreed to serve as associate director of the pilot project. He is a Fellow of the American Psychological Association and the Editor of the Journal of Educational Measurement. A graduate of the University of California at Los Angeles, majoring in history and being elected to Phi Beta Kappa, he holds the Ph.D. degree in educational measurement from Teachers College, Columbia University. As a doctoral student he held the AERA-World Book Company fellowship. Dr. Schutz has published a considerable number of articles in professional journals. During the summer of 1962 he and Professor Ellis B. Page were at the University of Wisconsin, where they and Professor Stanley developed the Schutz-Page-Stanley curriculum guide for inservice training in educational research that was mentioned under Category 3, above. His special interests are educational research and measurement, including factor analysis.

Dr. Frank B. Baker, Associate Professor of Educational Psychology at the University of Wisconsin, has agreed to be the electronic-computer specialist for the project. Dr. Baker took his Ph.D. degree in educational psychology at the University of Minnesota (1959), where he had considerable experience with the Control Data Corporation's 1604 digital computer while it was being developed. Dr. Baker is the digital-computer consultant for the social sciences at the University of Wisconsin. Each semester he teaches a course entitled "Computers in the Behavioral Sciences." Through his numerous publications and consulting, he is nationally known among computer specialists.

Gene V Glass, an NDEA Title IV Fellow in the Design of Educational Experiments at the University of Wisconsin who is scheduled to receive his Ph.D. degree in or before June 1965, has agreed to be an instructor in the program. He is well prepared in statistics and measurement and experienced as an experimental design consultant. Mr. Glass has studied multivariate analysis with Professors Chester W. Harris and Henry F. Kaiser and measurement theory with Dr. Frederic M. Lord. He is the author of several published professional papers.

The administrative assistant for Professor Stanley and the seven graduate assistants to work with the small groups would be chosen from among advanced graduate students in the Laboratory of Experimental Design, of whom there will be at least a dozen available. These persons will be doctoral candidates beyond the master's degree, who in most instances will have already completed at least two years of course work with specialization in statistics and measurement.

7. **Facilities.**

Besides the Laboratory of Experimental Design and the Wisconsin Center, the consultants would have access to the Statistical Laboratory, the Numerical Analysis Laboratory with its digital computers, the Survey Research Center, the Laboratory for Research on Learning and Instruction, the Psycho-Educational Clinic, the Reading Clinic, and two laboratory schools. In addition, the State Department of Public Instruction is a few blocks away.

8. **Other Information.**

(a) There is no support available for this project from sources other than the University of Wisconsin.

(b) This proposal has not been submitted to any other agency or organization.

APPENDIX B

PARTICIPANTS IN THE 1965 SUMMER PROGRAM IN EXPERIMENTAL DESIGN, AS OF SUMMER 1965

Predoctoral Males

Name	Degrees	Title--Place of Employment
Harry L. Bowman	B.Th. 1959 Pentecostal Bible Inst. B.A. 1962 Union University M.A. 1964 George Peabody College for Teachers	NDEA Fellow--George Peabody College for Teachers
Jeremy D. Finn	B.A. 1963 Syracuse University	NDEA Fellow--University of Chicago
Andrew H. Conyea	B.A. 1964 College of the Holy Cross	Graduate student--Clark University
Bobby R. Hopkins	B.A. 1954 Pasadena College M.S. 1959 University of Southern California	Assistant Professor of Mathematics and Science--Biola College, La Mirada, California
John M. Jenkins	B.Ed. 1955 University of Miami M.Ed. 1961 University of Miami	Principal--Miami Springs Senior High School
Louis G. King	B.A. 1951 Antioch College M.Ed. 1959 Wayne State University	Director of Laboratory School and Associate Professor of Education--Antioch College
Daniel Langmeyer	B.S. 1963 Brooklyn College	Research Assistant, Center for Advanced Study of Educational Administration--University of Oregon, Eugene
Ross W. Miller	B.S. 1952 University of Georgia M.S. 1964 Auburn University	Graduate Assistant in Education and Administration, University of New Mexico, and Assistant Professor of Education, West Georgia College (on leave)
Casper F. Paulson, Jr.	B.A. 1949 Augustana College M.A.T. 1961 Reed College	Evolving Programs Director--Teaching Research Division, Oregon College of Education
Thomas A. Romberg	B.S. 1955 Omaha University M.S. 1959 Omaha University	Coordinator of Research Testing Development--School of Mathematics Study Group, Stanford University
Richard S. Staudt	B.S.E. 1956 University of Michigan M.A. 1963 University of Michigan	NDEA Fellow--University of Michigan

Name	Degrees	Title--Place of Employment
James L. Wardrop	B.A. 1963 Washington University	NSF Fellow--Washington University, St. Louis

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Predoctoral Females

Name	Degrees	Title--Place of Employment
Carole A. Congram	B.A. 1958 Tufts University M.Ed. 1965 University of North Dakota	Graduate Assistant in Counseling and Guidance--University of North Dakota
Carrell P. Horton (Stipend provided by Fisk University)	B.A. 1949 Fisk University M.A. 1950 Cornell University	Statistician, Department of Pediatrics--Meharry Medical College, Nashville, Tennessee

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Postdoctoral Males

Name	Degrees	Title--Place of Employment
Glenn C. Boerrigter (Participant-observer from U.S. Office of Education)	B.A. 1953 Nebraska Wesleyan University M.Ed. 1957 University of Nebraska Ed.D. 1960 University of Nebraska	Research Coordinator--Cooperative Research Branch, United States Office of Education, Washington, D.C.
Dale L. Bolton	B.S. 1950 Oklahoma State University M.S. 1953 Oklahoma State University Ph.D. 1958 University of Wisconsin	Assistant Professor of Educational Administration--University of Washington, Seattle
Donald Fitzgerald	A.S.T.C. 1953 Sydney Technical College Ac.Dip.Ed. 1959 London University M.A. 1960 University of Illinois Ph.D. 1962 University of Illinois	Senior Lecturer in Educational Research--University of Melbourne, Australia
D. Bruce Gardner	B.S. 1948 University of Utah M.S. 1949 University of Utah Ph.D. 1952 Cornell University	Professor of Child Development and Psychology--Iowa State University
Burton L. Grover	B.S. 1954 University of Minnesota M.A. 1960 University of Minnesota Ph.D. 1963 University of Minnesota	Secondary Consultant--Manitowoc Public Schools, Manitowoc, Wisconsin
Kenneth D. Hopkins	B.A. 1956 Pasadena College M.S. 1957 University of Southern California Ph.D. 1961 University of Southern California	Associate Professor of Educational Psychology--University of Southern California

Name	Degrees			Title- Place of Employment
John L. Horn	B.A.	1956	University of Denver	Assistant Professor of Psychology--University of Denver
	M.A.	1961	University of Illinois	
	Ph.D.	1965	University of Illinois	
Jacob M. Kagan	B.A.		Brooklyn College	Instructor in Educational Psychology--Brooklyn College
	M.A.		City College of New York	
	Ph.D.	1965	New York University	
Jason Millman	B.S.	1955	University of Michigan	Assistant Professor of Educational Psychology--Cornell University
	M.S.	1958	University of Michigan	
	Ph.D.	1960	University of Michigan	
Daniel P. Norton	B.S.	1949	University of Minnesota	Assistant Professor of Education--Indiana State College
	M.A.	1958	University of Minnesota	
	Ph.D.	1964	University of Minnesota	
Daniel L. Stufflebeam	B.A.	1958	University of Iowa	Director of Test Development Center and Assistant Professor of Education--Ohio State University
	M.S.	1961	Purdue University	
	Ph.D.	1963	Purdue University	
Donald A. Trismen	B.S.	1951	State University of New York at Fredonia	Associate for Research and Development--Educational Testing Service, Princeton, New Jersey
	M.M.	1952	University of Rochester	
	Ph.D.	1964	Cornell University	
Paul A. Twelker	B.A.	1958	San Diego State College	Assistant Research Professor--Teaching Research Division, Oregon State System of Higher Education, Monmouth
	M.A.	1963	University of California, Los Angeles	
	Ed.D.	1964	University of California, Los Angeles	
Kaoru Yamamoto	B.S.	1953	University of Tokyo, Japan	Assistant Professor of Educational Psychology--University of Iowa
	M.A.	1960	University of Minnesota	
	Ph.D.	1962	University of Minnesota	

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Postdoctoral Females

Name	Degrees			Title- Place of Employment
Carmen J. Finley	B.A.	1948	University of California	School Psychologist and Director of Research and Data Processing--Sonoma County Schools, Santa Rosa, California
	M.A.	1952	Teachers College-Columbia University	
	Ph.D.	1962	Teachers College-Columbia University	
Mary C. Regan	B.S.	1952	Texas Women's University	Assistant Professor of Education and Assistant Research Educationist--University of California, Davis
	M.S.	1959	University of Wisconsin	
	Ph.D.	1963	University of Wisconsin	

Name	Degrees	Title--Place of Employment
	Faculty	
Frank B. Baker	B.S. 1950 University of Minnesota M.A. 1954 University of Minnesota Ph.D. 1959 University of Minnesota	Associate Professor of Educational Psychology--University of Wisconsin
Gene V. Glass	B.A. 1962 University of Nebraska M.S. 1963 University of Wisconsin Ph.D. 1965 University of Wisconsin	Assistant Professor of Education--University of Illinois, Urbana
Richard E. Schutz	B.A. 1951 University of California, Los Angeles M.A. 1955 University of California, Los Angeles Ph.D. 1957 Columbia University	Professor of Educational Psychology--Arizona State University
Julian C. Stanley	B.S. 1937 Georgia Teachers College Ed.M. 1946 Harvard University Ed.D. 1950 Harvard University	Professor of Educational Psychology--University of Wisconsin
	Assistants	
Alan M. Abrams	B.A. 1964 Yale University M.S. 1965 University of Wisconsin	Graduate Assistant--Laboratory of Experimental Design, University of Wisconsin
Elizabeth A. Holstein	B.S. 1957 University of Wisconsin M.A. 1963 University of Wisconsin	Administrative Assistant--Laboratory of Experimental Design, University of Wisconsin
Tom R. Houston	B.A. 1964 Harvard University M.A. 1965 University of Wisconsin	NDEA Fellow--Laboratory of Experimental Design, University of Wisconsin
Dorothy L. Jones	B.S. 1951 West Chester State College M.Ed. 1961 Pennsylvania State University	Graduate Assistant--Laboratory of Experimental Design, University of Wisconsin
Edward P. Meyer	B.S. 1963 University of Wisconsin	Graduate Assistant--Laboratory of Experimental Design, University of Wisconsin
Thereza Penna Firma	B.S. 1962 Catholic University of Rio de Janeiro, Brazil M.S. 1965 University of Wisconsin	Graduate Assistant--Laboratory of Experimental Design, University of Wisconsin

Name	Degrees	Title--Place of Employment
Andrew C. Porter	B.S. 1963 Indiana State University M.S. 1965 University of Wisconsin	Program Coordinator--Laboratory of Experimental Design, University of Wisconsin
Adrian Van Mondfrans	B.S. 1963 University of Utah M.A. 1964 University of Utah	Graduate Assistant--Laboratory of Experimental Design, University of Wisconsin

Secretary

Harriet Clutterbuck--Wisconsin Civil Service Stenographer III

Typist and Clerical Assistant

Steven R. Cox--Senior, University of Wisconsin, majoring in mathematical economics

APPENDIX C

Progress Report on
U. S. Office of Education Cooperative Research
Developmental Activities Program
Project No. X-005

for the period July 1, 1965 through September 30, 1965

Name of Institution: University of Wisconsin (Madison)

Title of Project : Benefits of Research Design; A Pilot Study

Project Director : Julian C. Stanley, Professor of Educational Psychology,
University of Wisconsin

The eight-week summer program in experimental design at the University of Wisconsin continued, with all thirty pre- and post-doctoral participants participating regularly, through 13 August 1965. The four instructors and seven graduate assistants worked regularly with the group, formally and informally, to maximize the benefits the individuals received from their eight weeks of participation. Also, all the participants attended the 2 1/2-day Seventh Annual Phi Delta Kappa Symposium on Educational Research at the University of Wisconsin, 9-11 August 1965.

During the afternoon of 12 August 1965, the participants prepared individual evaluations of the program, as they saw it near the end of the eighth week. These were read carefully by Professors Schutz and Stanley, who served as associate program director and program director, respectively, and by Professors Baker and Glass, the other two instructors. Partly on the basis of the impressions gained from perusing these structured essays, Professor Stanley reports the following tentative evaluation, subject to modification when evaluation by structured questionnaires takes place some six months hence.

The typical respondent reported that he felt the eight weeks' participation was well worth the effort he made to come to Madison and participate in the program. One person came with such specialized psychometric interests that he did not welcome the strong emphasis on the design of controlled, variable-manipulating experiments. One or two others wished there had been more emphasis on substantive research and less on methodology. The typical participant worked hard, often studying far into the night. Even when his prior expectations did not mesh well with the organization of the program, he was able (because of flexibility in himself and, to some extent, in the program) to accomplish a great deal that he considered beneficial.

About five of the participants had not really had a suitable course in statistical inference and were, therefore, handicapped in this area. Probably it would have been wise to have tested doubtful applicants with respect to statistical knowledge before admitting them, or to have had two levels of statistical instruction. (The participants were offered the opportunity to form a more elementary lecture-discussion session, but they preferred to remain with Dr. Glass, who proved to be a well organized, stimulating teacher.)

In addition to statistical background, it would have been desirable to have screened the group better for quantitative aptitude, because fast learning ability is essential in such a short session. For this purpose we recommend the Doppelt Mathematical Reasoning Test (DMRT) of The Psychological Corporation, 304 East 45th Street, New York 17, New York, a one-hour test available only at a number of testing centers throughout the country that offer the Miller Analogies Test. Two of the 14 predoctoral participants had offered DMRT scores upon applying for the program, and 23 others agreed to take the test during the summer. (Five postdoctoral participants preferred not to do so, and were not required to take the test. At least three of these five seemed highly able quantitatively.) The 25 DMRT scores ranged from 21 points (2 persons) to 48 points (3 persons) out of a possible 50 points, the median being 34. The three top scorers were all predoctoral; and in general the 14 predoctoral participants, all of whom took the DMRT, scored slightly better (median, 36) than did the 11 post-doctoral participants who chose to take the test (median, 34). The difference is most noticeable in the upper fifth of the 25 persons, all 5 of whom were predoctoral. A score of even 21 on the DMRT is not low for graduate students in education, however, being the 60th %ile of that group. The 48's are extremely high, being in approximately the upper 1% of graduate students in statistics departments. Probably a score of at least 30 is desirable for efficient learning in such a group (other aspects being favorable), but several persons who scored lower than that seemed to be among the participants who benefited most.

The combination of 14 predoctoral and 16 postdoctoral participants (originally exactly 15-15, but one of the former completed his degree after being accepted as predoctoral and continued to be paid in that category) seemed desirable to everyone, except that it seems unwise to choose predoctoral applicants who have completed less than two years of full-time graduate study and prepared a thesis. Persons with less than that may not be well enough motivated to work effectively on their own a great deal of the time, or greatly interested in research.

The age range, from 22 to 40, provided desirable heterogeneity of experiences, as did the varied backgrounds of the participants, from high-school principal in Miami to full professor of child development in Iowa. High general intelligence, as reflected by a score of 70 or more on the Miller Analogies Test (MAT) or the equivalent (say, the 90th %ile) on the Graduate Record Examination, Verbal-Aptitude Test, seems desirable. Most of the participants seemed to be above or not too far below this level, but because no such measures are available for post-doctoral participants (whereas all pre-doctoral participants except one had to furnish such information when applying), we cannot be sure. The 10 MAT scores provided by the 14 pre-doctoral participants were 90, 89, 85, 79, 76, 72, 70, 70, 61, and 58, for which the median is 74, but the four who chose not to have the MAT information sent may have known that their scores were low.

The 8 GRE-V scores provided by the (originally) 15 predoctoral persons were 820, 750, 690, 670, 630, 590, 560, and 530, plus one pre-doctoral participant for whom the GRE-V was reported merely as "99th %ile," probably somewhere in 700's, which would make the median 670, the 94th %ile of GRE-V norms. The lowest score, 530, is the 65th %ile.

The range of the nine GRE-Quantitative Aptitude scores was from "76th %ile" to 820; the median was 650. The 6 GRE special-field scores ranged from 500 (47th %ile of history majors) to two 680's (education and psychology, respectively), with a median of 610.

One pre-doctoral participant scored 90 on the MAT and 48 on the DMRT, but one who scored only 58 on the MAT scored 48 on the DMRT (and 820 on the GRE-Q). The third person who scored 48 on the DMRT scored 79 on the MAT, 820 on the GRE-V, but only 650 on the GRE-Q. These discrepancies suggest that it will be unwise to use only a single test score in a cut-off fashion for selecting participants for summer programs. It would seem desirable to have four scores for each applicant: MAT, GRE-V, DMRT, and GRE-Q. Because it is difficult to obtain all these for pre-doctoral applicants, and virtually impossible to secure unbiased such scores for post-doctoral applicants, many of whom are in charge of administering such tests, the selection committee for a program must begin its efforts early. If told in time, most pre-doctoral applicants can arrange to take all four tests (at just two administrations, MAT and DMRT at one and GRE-V and GRE-Q at the other). Post-doctoral applicants can be urged to have sent to the selection committee the scores from such tests that they took as graduate students, and preference can be given to applicants who offer at least some of the scores. Most graduate students take either the MAT or the GRE, and many take both. The DMRT is much less widely used.

The size of the group (30 participants) seemed right to most of the respondents, but several of them indicated that more individuation via smaller subgroups might be desirable. A few thought that 45-50 persons could be lectured as well as 30, if sufficient staff for smaller discussion groups were available.

Generally, neither the participants nor the instructors knew quite how to utilize the services of the graduate assistants well enough. One of these taught matrix algebra effectively to a small group of interested persons. Another helped with computer programming. A third conducted some tutorial sessions for 3-5 persons whose statistical training had been too slight. However, it seems better to have not more than one 20 hour-per week graduate assistant for each 10 participants and to use the freed funds to hire more regular, full-time staff. The graduate assistants used should not be preoccupied with urgent academic matters of their own, such as theses and preliminary examinations for degrees. It might be well to import them from another university to forestall this.

The director, Professor Stanley, was plagued by too many local responsibilities that he could not delegate or relinquish, such as eight M.S. degree theses and the accompanying oral examinations, planning for the Phi Delta Kappa research symposium, and getting ready to move to California for a year at the Center for Advanced Study in the Behavioral Sciences. Dr. Stanley handled a 75-minute session on the design of experiments each morning, five days a week, for seven weeks. Along with his other duties, this almost worked him to death, trying to prepare materials for the sessions. He recommends that the organizer and director of a program free himself from as many other commitments as possible and serve as director and stimulator only (i.e., not be a formally committed instructor).

Perhaps the program should have lasted seven weeks, instead of eight, because both staff and participants seemed to run out of steam near the end. This was alleviated partially by the two-and-one-half-day Seventh Annual Phi Delta Kappa Symposium on Educational Research, organized by Professor Stanley and held on the University of Wisconsin campus 9-11 August 1965. The summer-session participants attended the five main speeches (by Julian C. Stanley, George E. P. Box, Ingram Olkin, Leslie D. McLean, and Frank B. Baker) and heard tape recordings of the closed discussion sessions that followed each of the speeches. Also they received copies of most of the speeches. For the upper fourth of the participants, six weeks might have been long enough. For the lower fourth, eight or more might have been needed.

The stipends ($100 per week) and per-diem allowances ($80 per week) for post-doctoral participants seemed adequate to them, but the lack of stipends for pre-doctoral participants (who received just $96 per week per diem) was unfortunate. There seem to be good reasons why both pre- and post-doctoral participants should receive the same remuneration (about $200 per week plus travel allowance seems desirable), especially because the former usually have no funds for the summer other than those paid for the program, whereas post-doctoral participants have been paid reasonably well by their institutions for the preceding academic year and may be having their summer stipends supplemented. The pre-doctoral participants functioned as well as consultants as did the post-doctoral ones. Dependency allowances might be desirable, also, for programs lasting six weeks or longer.

The participants made a number of suggestions for future programs of this and other kinds. They prized time for private study and reflection, and ready availability of varied staff members and consultants. More outside consultants would have been desirable this summer. The participants were encouraged to request these by name during the program, and those requested were brought in, but this process works too inefficiently to rely on exclusively, so consultants should be scheduled in the designing of the program itself.

The staff was not highly successful in utilizing special research competencies of the participants themselves, perhaps largely because of the restriction of the program to the design and analysis of experiments, an area in which most of the participants had not yet contributed greatly. One pre-doctoral participant, a specialist in the computer programming of multivariate analysis of variance, worked with certain other participants on this. Probably it would have been possible to utilize the special competencies of several others better than was done.

Several participants who were greatly interested in psychometrics tried continually to enlarge the nature of the program from consideration only of "true" and quasi-experiments to encompass associational studies, but the staff resisted this pressure, because it was felt that the primary need of the group during this particular eight-week session was for the former. Participants had been selected because, although they might already have contributed considerably to associational studies, they were less well prepared to do experiments.

All in all, this pioneer program in the design and analysis of educational experiments went about as well as could be hoped for. The staff feels that nearly all of the 30 participants will be better educational researchers than they otherwise would have been. Specific changes at least partially attributable to the program will be sought from participants in about six months.

One of the ablest, most perceptive of the post-doctoral participants ended his evaluation as follows, reminding us that miracles should not be expected--certainly, not quickly--from one eight-week session:

> ". . . the program did one thing, namely, forcing me to wonder about many things, and this was good. Someone must blaze a trail, and this program did it, with all the understandable shortcomings and ambiguities. In the final analysis, we should not be depending on the grandpas (pardon the expression) who organized the program, precisely because the future depends upon what we do, not upon what they do. Thus, we will keep plodding our royal road of learning.
>
> "Well done pioneers!"

(This man was just three years younger than the average of the four instructors for the program--the "grandpas" to whom he referred--and only 14 years younger than the oldest instructor. Either the program acted on him like Ponce de Leon's fountain of youth, or else the instructors looked prematurely aged by the time it ended.)

Changes Made During This Reporting Period

Attention is invited to Part 5, "Procedures," of Appendix A for Project No. X-005. The success of the program was evaluated in ways 1a (but not anonymously), 3, 4, and 6. It did not prove feasible to give initial and final examinations to all the participants, because of their heterogeneity of backgrounds and heterogeneity of interests. It was felt that trying to keep all participants in a common curriculum would be educationally unsound.

Step No. 5, "By an analysis of the quality of the research proposal produced, especially as reflected by the percentage of them that are submitted to a Federal agency and approved," will be carried out in the future.

Julian C. Stanley
Project Director

APPENDIX D

Progress Report on
U. S. Office of Education Cooperative Research
Developmental Activities Program
Project No. X-005

for the period 1 October 1965 through 30 June 1966

Name of Institution: University of Wisconsin (Madison)

Title of Project : Benefits of Research Design; A Pilot Study

Project Director : Julian C. Stanley, Professor of Educational Psychology, University of Wisconsin

During the period of this report Professor Stanley and his half-time administrative assistant, Miss Elizabeth Holstein, have kept in touch with the 30 persons who participated in the summer 1965 program at the University of Wisconsin and with the instructors (Baker, Glass, and Schutz) and assistants who helped conduct it. They have been sent various materials to refresh and supplement the eight-week experience. Journals and convention programs have been searched for their contributions. An all-day set of speeches and conferences on the design and analysis of educational experiments was held specifically for this group on 16 February 1966 at Loyola University in Chicago, with good attendance. This was planned by Professor Stanley and Miss Holstein, with Professor Samuel T. Mayo of Loyola University as the chairman. Five major addresses were given by outstanding specialists, and then small-group sessions were held.

In mid-May of 1966 a questionnaire concerning the first-year effects of the summer program was sent to each of the thirty former participants. Replies are beginning to arrive. These will be tabulated and analyzed as a basis for preparing the final report at the end of the summer.

Professor Stanley and Miss Holstein maintain a considerable correspondence with the participants. Preliminary evidence indicates that their progress has been facilitated considerably by the summer experience, this being at least as true of the predoctoral participants as of the postdoctoral ones.

Direct and indirect influences on the instructional staff seem to have been great, too. Richard E. Schutz, now Director of the Southwest Regional Laboratory for Educational Research and Development, conducted an AERA-sponsored five-day session on experimental design and analysis in Chicago 12-16 February 1966, immediately preceding the annual conventions of the American Educational Research Association and the National Council on Measurement in Education. His faculty consisted of Gene V. Glass, Leslie D. McLean (who had been a one-day consultant for the summer program), and Julian C. Stanley. Fifty persons, most of them already having doctorates, attended from all over the United States.

During the period 11-15 February 1967 Gene V. Glass, now an assistant professor at the University of Illinois, will conduct a five-day AERA presession on the design and analysis of experiments at Grossinger, New York,. for some 50 persons.

APPENDIX E

The One Academic-Year Follow-Up

1. The three letters of transmittal.
2. Summary sheet.
3. The questionnaire responses
   a. Predoctoral participants
   b. Postdoctoral participants

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard - Stanford, California 94305

Telephone (415) 321-2052

May 17, 1966

SUBJECT: Your evaluation of the 1965 Summer Program in Experimental Design, nine months later

TO : All thirty persons who were participants in the 1965 Summer Program in Experimental Design at the University of Wisconsin, 21 June - 13 August

FROM : Julian Stanley

Dear Thirty:

You've had an academic year in which to think about the aftereffects of the eight weeks you spent in Madison last summer. The U.S. Office of Education (which financed the summer program), Frank Baker, Gene Glass, Dick Schutz, and I would greatly appreciate your frank comments, criticisms, and suggestions concerning the program. These will be used by us in preparing a final report for the USOE, in which no commenter's identity will be divulged. On the enclosed sheets I have tried to provide some structure for your evaluation, but please feel free to go beyond this and remark about whatever aspects you wish. Do the best you can to estimate the extent to which your various activities during the summer actually influenced your subsequent achievements and activities. Please try to minimize the "post hoc, ergo propter hoc" ("after this, therefore because of it") fallacy.

I have noted, for example, that four of you (Bowman, Millman, Twelker, and Yamamoto) presented at least one paper each during the 17-18 February 1966 annual AERA convention, and another (Horn) was coauthor of a paper read there. Dan Stufflebeam was on the program at the concurrent convention of NCME.

Best regards,

(Signed) Julian

Julian C. Stanley

P.S. Dick Schutz organized a five-day presession of experimental design and statistical analysis that was held in Chicago 12-16 February 1966. Instructors were Gene Glass, Les McLean, and I.

Enclosures: Questionnaire form
Reprint, stamped and
addressed envelope

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard - Stanford, California 94305

Telephone (415) 321-2052

June 28, 1966

SUBJECT: We greatly need questionnaires returned soon by the nine persons whose, as of mailtime on Monday, June 27, had not been received.

TO : Those nine nonrespondents.

FROM : Julian Stanley, who will soon prepare a final report on the 1965 summer program for the U. S. Office of Education's use in tailoring other such institutes to the needs of educational researchers.

Dear (As Yet) Nonrespondents:

Won't you please take a few minutes right now and complete the enclosed questionnaire? Whether you enjoyed the Madison summer program greatly, felt so-so about it, or disliked it heartily, we need to know your reactions and get some idea how it might have affected you during the academic year 1965-66. Only you can tell us that.

Uncle Sam invested quite a bit of money in you as consultants, with the understanding that you would help evaluate the program. The enclosed questionnaire can be completed reliably in ten minutes or less by the typical respondent.

We have already received completed questionnaires from twenty-one of the thirty participants. You nine threaten to bias the reporting in difficult-to-infer ways. Please don't!

Cordially yours,

(Signed) Julian

Julian C. Stanley

JCS/ap
Enclosures: questionnaire and stamped, addressed
envelope

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard - Stanford, California 94305

Telephone (415) 321-2052

July 19, 1966

Dear Three Hard-Core Nonrespondents:

Twenty-seven of the thirty 1965 summer-program participants have returned the questionnaire. Uncle Sam needs your responses to avoid bias! Please help us repay him for supporting us during the program by completing the enclosed questionnaire now and returning it to me in the enclosed addressed, stamped envelope immediately.

Cordially yours,

(Signed) Julian

Julian C. Stanley

JCS/ap
Enclosures: questionnaire
stamped, addressed envelope

Summary Sheet for Items Checked

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? 29 Yes 1 No Please explain:

To analyze data resulting from experiments? 29 Yes 1 No Please explain:

Have you begun or completed any experiments since 13 August 1965? 16 Yes 14 No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? 24 Yes 6 No If so, to whom and for what type of experiments?

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little 7 Moderately 17 A great deal 6 No answer In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? 15 Yes 15 No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? 21 Yes 4 No 5 No answer If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? 6 Yes 24 No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? 4 Yes 26 No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? 9 Yes 21 No What and how?

Have you secured research contracts or grants subsequent to August 13? 8 Yes 22 No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? 12 Yes 18 No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? 4 None 5 Little 4 Moderately 5 A great deal 12 No answer. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? 6 Yes 23 No 1 No answer Which conventions have you attended since August 13?

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? 5 None 2 Little 4 Moderately 2 A great deal 17 No answer Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? 12 Yes 2 No 15 Taught no such courses 1 No response

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation:

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments?

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? 4 Yes 26 No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison ___ I'm sorry I did. 2 Neutral: neither glad nor sad. 2 It was worthwhile. 19 I benefited a great deal. 7 It was a hugely rewarding experience. Or devise your own category:

Predoctoral 1

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:
To design experiments? _x_ Yes ___ No. Please explain: but little opportunity.
To analyze data resulting from experiments? _x_ Yes ___ No Please explain: I am now in a position to evaluate (rather than simply consume) research data.

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No. If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Assisted a junior staff member in developing an observational instrument for classroom interaction.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little _x_ Moderately ___ A great deal In what respects? Through better understanding of significance of randomization.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: I have felt/been on much sounder ground in evaluating our laboratory school program (e.g., being more aware of self-selection factors, etc.)

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No. If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?
For project(s) entitled
For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No. If so, please explain: Extended scholarship for Ph.D. work.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little _x_ Moderately ___ A great deal. Please explain: My projected doctoral study was more soundly based.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? American Educational Research Association, LSAA.
At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)
To what extent were these papers affected by your activities last summer?
___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation?

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments?
See my written evaluation submitted at the close of last summer workshop.

Other comments: We might, as a team, have worked on a real "Here and now" study--from hypothesis and design through data collection to inferential analysis.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No
If so, at which convention(s) and to present paper(s) entitled what?
Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. _x_ It was worthwhile. ___ I benefitted a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Predoctoral 2

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? _x_ Yes ___ No Please explain:

To analyze data resulting from experiments? _x_ Yes ___ No Please explain:

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: Analysis of human behavior: children's language

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Master's and Ph.D. students.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded)

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? American Educational Research Association, American Psychological Association, Educational Testing Service, National Council on Measurement in Education

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) None

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: Factor in my gaining a position this coming September.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? Not been quite as restricted from discussions of "psychometrics" or non-manipulated variable studies.

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:—

Predoctoral 3

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments _x_ Yes ___ No Please explain: Have a greater familiarity with design problems and what to look for.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: Was able to acquire a greater knowledge of the analysis of variance, in its various forms.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: Dissertation: Some relationships between student's socialized anxiety and their attitudes toward school.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Students coming to the offices of research service.

To what extend did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? Provided greater knowledge of both the design and analysis of experiments.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: Many considerations are the same for controlled, manipulated variable experiments and those clasified otherwise.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? Too busy this year for conventions. Will be attending again next year.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) None

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If You have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: Help to some extent ? in being offered the position of state director of research.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I believe the program was well handled. The only "negative" comment I might make is that there just wasn't enough time to take advantage of all that was offered at Madison (program wise that is!).

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you *now* that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. __ It was a hugely rewarding experience. Or devise your own category: Would enjoy another chance to take advantage of what I didn't get last summer.

I'm sorry this evaluation is so late, but I have been "snowed under" with my dissertation.

Predoctoral 4

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:
To design experiments? _x_ Yes ___ No Please explain:

To analyze data resulting from experiments? _x_ Yes ___ No Please explain:

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? ___ Yes _x_ No If so, to whom and for what type of experiments?

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately ___ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise _x_ Yes ___ No If so, please explain how: The design is much better than it would have been without the program. Analysis of data also better.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how? Dissertation in progress: Innovativeness in Teachers with Varying Histories.

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal.
Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? In the last two years I have attended fewer conventions than for the preceding ten years because of full-time study.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses. I have taught no courses during the past year. In the summer session I will teach a seminar in elementary school science curriculum which is described as having a research orientation. Research findings will be studied with a view to utilization of these findings in revision of content, methods, and sequence in elementary school science instruction. A graduate course in research methods in education is a prerequisite.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: Appointment to teach the above course was certainly influenced by the attendance at the program. It also was given favorable consideration in salary determination for a 1966-67 appointment as associate professor. Duties will include coordination of public school requests for college staff assistance and of college use of schools for laboratories.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? More small group work with staff members would have enabled me to deal directly with next steps in development of my proficiency. More resource people could have given direct ties to other situations as did the editor.

Other comments: The variety of backgrounds of participants made contributions. Participants could have made more contributions to planning and instruction.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _X_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Predoctoral 5

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:
To design experiments? x Yes ___ No Please explain:

To analyze data resulting from experiments? x Yes ___ No Please explain:

Have you begun or completed any experiments since 13 August 1965?
___ Yes x No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? x Yes ___ No If so, to whom and for what type of experiments? To a number of graduate students in the Department of Psychology concerning experiments for course requirement, M.A., and Ph.D. experiments.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately x A great deal In what respects? Understanding of appropriateness of various designs, more sophisticated types of analysis.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes x No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? x Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? x Yes ___ No If so, please explain how: Currently doing theoretical research (with computer) on relationships between analyses of covariance and correlational analyses, particularly concerned with interaction effects. Summer program increased my understanding of mathematical basis for ANCOVA!

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes x No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes x No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes x No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes x No If so, from what source(s)? But proposal is currently before Office of Education for a 5-year grant for:

For project(s) entitled An Investigation of the Application of Some Statistical Techniques to Educational Research.

For how many dollars each? About $275,000

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: Postdoctoral fellow at an R & D Center, 1966-67!

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately _x_ A great deal. Please explain?

Does your attendance at professional conventions seem to have increased, at leastly partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? American Psychological Association, September.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) Presented "Programmed Instruction and the Ability to Learn" (a correlational study, completed before the Summer Program).

To what extent were these papers affected by your activities last summer? _x_ None ___ Little ___ Moderately ___ A great deal Please explain: See Above

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation?

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? Some afternoon sessions could have been "problem" oriented more than they actually were, i.e., an experiment presented with well defined independent variables, a general procedural outline, particularly involving problems in either design or analysis which required careful and creative thinking for their solution.

Are you schedule to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category.

Predoctoral 6

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? _x_ Yes ___ No Please explain: Much more knowledgeable. Can critically read reports of research--much more discerning. Helped develop design and analysis of Title III proposal for county school system.

To analyze data results from experiments? _x_ Yes ___ No Please explain: Analyzed data from doctoral study. Better able to cite limitations and to recommend tighter designs and analyses for future investigations.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: Characteristics of Innovative Teachers

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No. If so, to whom and for what type of experiments? Served as a consultant on Title III grant to establish an independent study center in county schools.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? I was much better prepared to assist in developing ways to evaluate outcomes for the proposal.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: Analyzed data from my own study of innovative teachers. Advised teachers in my own school who wished to conduct more quasi-type studies of their own teaching.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: Two of my teachers have received assistantships to work in a new program in preparing researchers. I helped them receive the assistantship. My assistant principal was appointed an instructor in the program.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? _x_ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? NASSP. Planned to attend American Educational Research Association, but lack of funds changed plans.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? _x_ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation:
1. Have served on a number of planning committees for county schools.
2. Have received an offer to direct R/D Center for county school system about two years away.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? Afternoon sessions should have been devoted, at least partially, to carrying through experimental designs. Could have been simulated or actual experimentation.

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

I am sorry that I am one of the remaining nine, but I never received the first questionnaire. I have changed residence which might account for the confusion.

Predoctoral 7

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain:

To analyze data resulting from experiments? _x_ Yes ___ No Please explain:

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Very informal capacity

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little _x_ Moderately ___ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? Not at all

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? Maybe Yes _x_ No If so, please explain how: Am working on a factor-analytic paper, something I've never dabbled with before.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilited (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each? Although my answer is no, I object to this question!

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? None

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA_NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: It is obvious that people in my department have considered me more knowledgeable in design and analysis since I have returned from Madison.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments?

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. _x_ It was worthwhile. ___ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category. I do not share the philosophy of education apparently held by Mr. Stanley and other directors of the LED. To the extent that my interest was piqued in fields in which I theretofore had no interest (e.g., computer programming which I shall be studying this summer) I feel the program was a success in my own terms. In terms of the personal experiences savored and people met, I am extremely happy that I attended the program, and I expect to reap more rewards from it as my sphere of influence and experimental experience increase. As I stated in my evaluation of last August, I was in no need of convincing as to the value of experimenter-manipulated variable studies, since in my department, practically nothing else is acceptable. If anything, I was more impressed by the other side, e.g., Baker and Collins' Monte Carlo techniques and Horn's factor analyses. Although I enjoyed and profited from the experience a good deal, I do not think I was an ideal candidate. In terms of what cooperative research hopes to accomplish, I think you would be better off sticking to candidates from educational psychology departments in the future, although I am loath to deny to academic psychology students the experience which I had at Madison.

Predoctoral 8

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: Awareness of more sources of bias and methods to reduce experimental error. Also some confidence gained.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: Some familiarity with multiple comparisons.

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Dr. Newton Metfessel--"Project Potential" a USOE grant studying culturally disadvantaged youth in Los Angeles area.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little _x_ Moderately ___ A great deal In what respect? More facility with factorial design.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: More facility with factorial designs and multiple comparisons.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13?

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) None

To what extent were these papers affected by your activities last summer?
___ None ___ Little ___ Moderately ___ A great deal Please explain:

If You have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: More salary; job opportunities; research consultant opportunities.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I perform more efficiently in a more structured setting, e.g., assignments, reports, exams. However I realize those with better background and more knowledge probably feel differently. Considering the heterogeneity of the group, I feel the program was conducted excellently.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No
If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Predoctoral 9

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? x Yes ___ No Please explain: I have a better repertoire and a better understanding of their relative merits.

To analyze data resulting from experiments? x Yes ___ No Please explain: The Summer Program served as motivation and introduction to a sequence of statistics courses I took this year. Whatever proficiency I have is thus attributable to both sources.

Have you begun or completed any experiments since 13 August 1965? ___ Yes x No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? x Yes ___ No If so, to whom and for what type of experiments? Routinely, to staff members as a responsibility of my position, for a variety of variable manipulating applied research efforts, mostly variations of ANOVA designs.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately x A great deal. In what respects? My advice was sought more frequently, listened to more earnestly; consequently I was obliged to weigh it more heavily, review my notes and sources more frequently.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? x Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? In two projects, and most of a third, my responsibility has been largely administrative and supervisory; design preceded the summer program.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? x Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes x No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes x No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation ___ Yes x No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program: I have edited and helped write progress and final reports of subordinates, in which case the summer program proved helpful.

Do you have other completed reports that owe something to your summer work? ___ Yes x No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)? None wherein I am designated as principal investigator though a project was continued for which I have primary responsibility for research and development.

For project(s) entitled Research on Programmed Dental Instruction.

For how many dollars each? $30,000

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None _x_ Little ___ Moderately ___ A great deal. Please explain: Projects were already in process.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? None

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: I have been completing course work for a doctoral program this year. Largely as a result of the Summer Program, I selected and completed a supporting area in Research and Measurement.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? There was a poor match between my entry behavior and the assumptions of the program. It seems likely that I was not alone in this respect. If homogeneity is unattainable or not desired, then the program could cope better with individual differences. It should not be easy, but the return should be commensurate with the effort. This would seem to require structural alternatives, with group leaders minimally differentiated in status or prestige.

~~Other-Comments~~

Are you schedule to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category: The responses indicated above should be interpreted in light of the fact that I have been devoting most of my effort this year in completing a doctoral program. My Summer Program experience influenced me to choose a heavy emphasis on statistics and measurement this year. While this may result in some unfortunate confounding effects on future interpretation of W.S.P. effects, the influence of the program is apparent.

Predoctoral 10

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? _x_ Yes ___ No Please explain: Increased confidence and better reference sources.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: Increased confidence although not as much as I had expected (see note 1 about doing things differently on the last page).

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: "Set, Organizer, and Summarizer as Used in Reading Passage in Mathematics"; "Systematizing as Transferable Problem Solving Behavior."

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Paul Twelker (Discovery Learning study); 5 students, as well as numerous internal studies (not experiments).

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? Again increasd confidence ans sources.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? 100% on a couple to 50% on most.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes __ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: More familiarity with analysis procedures especially ANOVA and ANCOVA.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program: But will have within the next few months.

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Do your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? American Educational Research Association - National Council on Measurement in Education

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) None

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: I made contacts at Wisconsin which led to my being hired with major responsibility in an R & D Center.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? (1) More work on analyzing published studies. I am not now a confident critic. I expected to spend a good deal of time analyzing studies. (2) More personal ~~Other comments~~ interaction between participants and their families. (3) More emphasis on the need to do "important" experiments. I had a feeling at the end of the summer that the participants were much more aware of the design and analysis problems when doing an experiment, but were not motivated to do better conceptual experiments.

Research, as I see it, has two important facets. Important problems conceptually well conceived and handled methodologically well. Emphasis on the later does not insure better research. And although this was not the intent, I have an uneasy feeling that the end product may be many trivial studies done well.

Cronbach's institute had the opposite emphasis and may produce conceptually powerful studies done haphazardly.

What I am arguing for is a happy medium which may not be attainable in a single summer. (Note that many NSF Institutes for Math teachers are 3 summers.)

Are you scheduled to appear on future conventions programs (e.g., American Psychological Association in New York City next September)? _x_ Yes ___ No If so, at which convention(s) and to present paper(s) entitled what? National Council of Teachers of Mathematics (Aug. 1966) "Research in Mathematics Education."

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program. Some although this is more of a position paper calling for research.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

It is really too early to estimate how much benefit will accrue from the session, but I would not have missed it and know the benefits will be increasing.

Predoctoral 11

Presumed Aftereffects of the 1965 Summer Program in Experimental Design.

Have you seemed more able this academic year because of the program: To design experiments? _x_ Yes ___ Please explain: I have had no opportunity but feel that I am now able.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: My reading of the literature has indicated that I am better able to analyze data.

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? ___ Yes _x_ No If so, to whom and for what type of experiments?

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately ___ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: I have been much more critical of the methods used.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes x No Which conventions have you attended since August 13?

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No 1 Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation:

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I think that any suggestions would result from my lack of familiarity with educational psychology, rather than with the organization of the summer program.

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes x No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I dod. ___ Neutral: neither glad nor sad. ___ It was worthwhile. x I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Predoctoral 12

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? _x_ Yes ___ No Please explain:

To analyze data resulting from experiments? _x_ Yes ___ No Please explain:

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? ___ Yes _x_ No If so, to whom and for what type of experiments?

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately ___ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? _x_ Yes ___ No Which conventions have you attended since August 13? American Educational Research Association-National Council on Measurement in Education Feb. 1966.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) AERA paper

To what extent were these papers affected by your activities last summer?
___ None _x_ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: Promotion to Director, Research Services, for a State Department of Education, March 1, 1966 --salary adjustment.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I was quite pleased with the summer program. More time spent on analyzing design used in specific research studies might have been helpful.

Other comments:

Are you scheduled to appear on future conventions programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?
Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. ___ I benefited a great deal. _x_ It was a hugely rewarding experience. Or devise your own category:

Dr. Stanley:

Please excuse my failure to respond promptly to your first letter.

Predoctoral 13

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? x Yes ___ No Please explain: "Seemed" is the key word; I have no empirical evidence.

To analyze data resulting from experiments? x Yes ___ No Please explain: Same as above.

Have you begun or completed any experiments since 13 August 1965? ___ Yes x No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? x Yes ___ No If so, to whom and for what type of experiments? I've been working on a demonstration and experimental project in programed instruction. My assistantship has involved evaluation of funded final reports.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately x A great deal In what respects? I "seemed" more aware of the nuances of experimentation.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? x Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? ___ Yes x No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes ___ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? x Yes ___ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded): Donald G. Miller et al., Assimilation of New Media in the Instructional Repertoire of a Rural High School. NDEA, Title VII, OE-7-59-9011-274 (Mimeographed).

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes x No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes x No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes x No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? x Yes ___ No If so, please explain: Research assistant Department of Counseling & Behavioral Studies.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately _x_ A great deal. Please explain: I was "hired" when the research director heard that I was in "Mr. Stanley's summer program."

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? American Personnel and Guidance Association.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA_NCME contributions.) Cognitive, Intellective & Social Aspects of College Environments: Research in Graduate Education--presenter.

To what extent were these papers affected by your activities last summer? ___ None ___ Little _x_ Moderately ___ A great deal. Please explain: Although the focal point of my presentation concerned a study completed prior to the summer program, methodological aspects of studies in graduate education were considered; the summer program's curricula helped in this respect.

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation:

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? Much of the afternoon activity could have been eliminated. Many afternoons I felt that I should have been pursuing topics presented in the morning; although
Other comments: the opportunity for such pursuance was there, I always felt that the afternoon activities should take precedence. Thus I never delved into many topics as extensively as I might have liked. Perhaps it isn't realistic to plan to cover so much in an 8-week session. Also, perhaps some seminars similar to the LED weekly meeting would be beneficial.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a very great deal. ___ It was a hugely rewarding experience. Or devise your own category:

I hope the enclosed is not too late [12 July 1966] for your report. You'll see one big reason why I'm so tardy when you receive a copy of the final report that has kept me occupied these last few weeks. And, by the way, when the word seems is used repeatedly in a questionnaire, this respondent finds it difficult to complete said questionnaire in twenty minutes, never mind ten.

Predoctoral 14

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? _x_ Yes ___ No Please explain: I have been made design expert here and have aided and abetted several pieces of research. I hope I am better at design; I'd better be!

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: I have consulted with several people on the interpretation of their results and am engaged in my own research.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: Recency-primacy effects in conformity; a sequential analysis of social influence and non-influence (planning stage).

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments: To Dr. Wrench; assimilation contrast in group settings. Dr. Stivers, survey project; J. Becker, experiment in a school setting (he, unfortunately, came after the damage was done).

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? I could not have felt as competent and confident as to the decisions I finally made.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: Several central problems and ideas in educational research were discussed last summer which helped me discuss the research for which I consulted. Also found out I needed more statistics which I have done and have pursued several non-experimental-type-method areas (like Guttman's "Facet analysis and smallest space analysis).

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: a) I have been designated as statistical design and research methods resource person independent of any one staff member; b) Goldhammer heard about me and now I am in charge of an OE summer research and training project for undergrads.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little _x_ Moderately ___ A great deal. Please explain: It helps to have been to a formal, titled, training program.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? _x_ Yes ___ No Which conventions have you attended since August 13? American Educational Research Association attendance was alltogether a result of last summer.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses. As mentioned before this summer project; also I T.A.'ed the Experimental Design course in the Psychology Department and may do it again this coming year.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation:

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? 1. By pushing experiments and overtly suppressing correlational research, a great resentment and unnecessary resistance was created. I missed out on a lot of important training by not being exposed to varied approaches. 2. The resources within the group were not used as they should have been. Several participants were very skilled in certain areas and they were not tapped so that near the end of the 8 weeks I personally was getting bored. Thus, the afternoon sessions could have been handled differently like on a topical or content basis. Possibly grouping people into small groups and having each group prepare an experiment for consideration would have been instructive.

Other comments:

The major difficulty with a training program for professionals is that they are already pretty well set in their ways. This is why I think an exchange of ideas would have been better than attempts at indoctrination. It was downright disappointing to hear what one faculty member was doing with experimentation in education after a summer of him pushing it as the way to get results.

Are you scheduled to appear on future conventions programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. ___ I benefited a great deal. _x_ It was a hugely rewarding experience. Or devise your own category.
3 consequences of last summer are my picking research and statistics in Social Psychology as my minor pre-lim area, a growing interest in educational research and education as a possible career, and sailboating with a passion.

I have a tendency to put off the most immediate and pressing obligations. My not sending the questionnaire back promptly does not reflect my feel- about last summer's experience. To the contrary I very much appreciate having been chosen for last summer's program.

I hope my poor manners have not inconvenienced you too much.

July 2, 1966

Postdoctoral 1

Have you seemed more able this academic year, because of the program: To design experiments? x Yes ___ No Please explain: I seem more confident and competent in getting at basic design considerations.

To analyze data resulting from experiments? x Yes ___ No Please explain: Familiarity with Winer (though not notes) is helpful.

Have you begun or completed any experiments since 13 August 1965? x Yes ___ No If so, please list a short title for each: Recall of details of Teacher Education film as a function of differential instructions to observe.

Have you served as a consultant on the design and analysis of experiments since August 13? x Yes ___ No If so, to whom and for what type of experiments? Counseling office at College. Survey study on teacher-behavior preferences of male elementary school teachers.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little x Moderately ___ A great deal In what respects? (1) The need for controls (2) The need for manipuable variable (3) What is N

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? x Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? A great extent

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? x Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? x Yes ___ No If so, please explain how: It pointed up the shortcomings of such an approach by itself. Fortunately we plan to manipulate in the second phase of the experiment after assessing preliminary findings.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes x No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes x No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes x No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes x No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? x Yes ___ No If so, please explain: Acting principal investigator for Dr. Harry Beilin, Brooklyn College - NIH.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None _x_ Little ___ Moderately ___ A great deal. Please explain: Perhaps it helped convince the granting agency that I could handle the job.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No .Which conventions have you attended since August 13? EPA - April, 1966.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA_NCME contributions.) EPA - Recall of categorized words as a function of set, delay and word associations.

To what extent were these papers affected by your activities last summer? ___ None _x_ Little ___ Moderately ___ A great deal Please explain: Got some help from Gene with multiple comparisons but work was basically completed before the summer.

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses. Drawing especially from Campbell-Stanley chapter.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: None

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? More educationally significant ideas--less statistically significant trivia.

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 2

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? _x_ Yes ___ No Please explain: Am able to utilize more appropriate and powerful ANOVA models, e.g., nested design.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: Since I am now able to derive expected MS values, can determine appropriate error term with confidence.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: TV vs. Teacher Administration of Standardized Tests: Comparability of Scores; Mental Measurement of the Blind; the Validity of the WISC.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Public schools system--design of study for identifcation and education of culturally deprived gifted (quasi-experiment); county schools Title III State Department of Education--Workshop on Evaluation of Title I ESEA.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal. In what respects? Increased repertoire of possible designs.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? A great deal.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: Learned how to handle disproportionate cell frequencies which are typical with quasi-experiments.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? _x_ Yes ___ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded): "TV vs. Teacher Administration of Standardized Tests: Comparability of Scores" Journal of Educational Measurement (in press) More sophisticated analysis. "Mental Measurement of the Blind: The Validities of the Blind" Journal for the Education of the Blind, March 1966 Need Greenhouse & Geisser conservative test due to non-homogeneous covariances.

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? _x_ Yes ___ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program: "Auth. Ach. in Conventional and Departmentalized Elementary Schools"-- more accurate analogy and interpretation.

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how? Not completed, but in process.

Have you secured research contracts or grants subsequent to August 13? _x_ Yes ___ No If so, from what source(s)? Office of Education - Health Education and Welfare.

For project(s) entitled (1) Establishing a Training Program in Educational Research and The Laboratory of Educational Research.

For how many dollars each? $15,000 first year ($30,000 total estimate).

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: (2) Establishing a Graduate Research Training Program $44,000 first year (projected $538,000 over 5 year period).

*To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately _x_ A great deal. Please explain: I think the "fore" validity of being associated with Stanley and the Laboratory of Experimental Design at University of Wisconsin helped greatly.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? _x_ Yes ___ No Which conventions have you attended since August 13? American Educational Research Association, National Council on Measurement in Education.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA_NCME contributions.)

To what extent were these papers affected by your activities last summer ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses. Have added two courses in Experimental Design and Analysis to our offerings here--expanded two others from 2 to 3 semester hours.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: See response at top of page. (See question marked with (*) above.)

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I think a few examinations would have helped "motivate" some who lacked adequate self-discipline. I think the computer analysis could have been tied more closely with other sections.

Other comments

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? _x_ Yes ___ No If so, at which convention(s) and to present paper(s) entitled what? Staff, presession American Educational Research Association on design and analysis of Education Experiments with Glass & Millman. Submitting paper "Comparative Validity of Essay and Objective Exam" American Educational Research Association 1967.

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program. Yes, especially Stanley's article on determining reliability of essay exams.

Everything considered, how glad are you *now* that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. ___ I benefited a great deal. _x_ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 3

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program: To design experiments? _x_ Yes ___ No Please explain:

To analyze data resulting from experiments? _x_ Yes ___ No Please explain:

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No If so, please list a short title for each: See instead last item this page. (Marked with asterisk)

Have you served as a consultant on the design and analysis of experiments since August 13? ___ Yes _x_ No If so, to whom and for what type of experiments? See instead last item.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately ___ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? See instead item below.

*Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain: Campbell-Stanley chapter as a frame of reference for such research designs.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? Final report U.S. Office of Education contract containing design recommendations for follow-on evaluation project.

Have you secured research contracts or grants subsequent to August 13? _x_ Yes ___ No If so, from what source(s)? U.S. Office of Education; County School System (Project Director for each).

For project(s) entitled Planning Tests to Measure Outcomes of the Research Program "Education Through Vision;" Use of Objective Tests in an Ungraded School System.

For how many dollars each? $9,000; $175,000

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little _x_ Moderately ___ A great deal. Please explain: It enabled me to increase my technical competence, and thereby plan the work of the contracts more effectively.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? _x_ Yes ___ No Which conventions have you attended since August 13? NCME-AERA, EPA.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) EPA -- "System and Serendipity."

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately _x_ A great deal. Please explain: Concerned with principles and practices of experimental design.

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: Participant as panel member on experimental design in ETS Workshop on Title I Evaluation.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? Slightly less lecture, slightly more unscheduled time.

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what? Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. ___ I benefited a great deal. _x_ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 4

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: Feel more at home with complex designs; considered latin squares and repeated measures for the first time.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: More aware of problems of interpretation of data.

Have you begun or completed any experiments since 13 August 1965 _x_ Yes ___ No If so, please list a short title for each: Begun: Classroom Simulation and Interaction Analysis as Adjunct Instruction; Completed: Prompting in Classroom Simulation; Begun: Two Types of Teacher-Learner Interactions in Learning by Discovery.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Mr. Marvin Liske, Doctoral dissertation, Repeated Measures, Latin Square design; Mr. Wayne Parrish, Mr. John Jones, university doctoral students.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little _x_ Moderately ___ A great deal In what respects? More aware of design features.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? To some extent.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes _x_ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? _x_ Yes ___ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded): Classroom Simulation and Teacher Preparation, The School Review, (in press). Based on AERA symposium paper that was conceived of while attending the summer program. In fact, the program was stimulus for me to organize the symposium in the first place.

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? Prompting as an Instructional Variable in Classroom Simulation, NDEA Title VII report, April 30, 1966. The analysis of the data was altered and improved after attending the summer program.

Have you secured research contracts or grants subsequent to August 13? _x_ Yes ___ No If so, from what source(s)? U.S. Office of Education.

For project(s) entitled Classroom Simulation and Interaction Analysis as Adjunct Instruction in Teacher Preparation.

For how many dollars each? About $41,000

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None _x_ Little ___ Moderately ___ A great deal. Please explain: The project was changed very little from its original conception by exposure to summer program participants.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? Phi Delta Kappa Symposium, Seattle, Wash.; AERA and NCME, Chicago, Ill.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) AERA

To what extent were these papers affected by your activities last summer? ___ None ___ Little _x_ Moderately ___ A great deal. Please explain: The AERA research report analysed data in a way decided upon at the summer program. See page 2 comments about the symposium paper.

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: My attendance at the summer program may have been positively related to a nice salary increase (no assumptions concerning causative factors).

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? More emphasis on the factors involving design of experiments, and less on the math statistics side of the picture.
As a user of experimental designs and statistics, I am faced with problems that are more applied in nature.

Other comments:

Are you scheduled to appear on future conventions programs (e.g., American Psychological Association in New York City next September ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___It was worthwhile _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 5

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: I have slightly more familiarity with some designs and more confidence in digging them out of available sources.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: Somewhat more ability and/or inclination to get information out of texts--also awareness of certain procedures such as planned comparisons.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: See attached

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? See attached

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little _x_ Moderately ___ A great deal In what respects? See attached

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s) See attached

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? ___ Yes _x_ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes ___ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded)? See attached

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program: See attached

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? See attached

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)? Curriculum Development, ($50,000) but not Curricular Research ($60,000) - U.S. Office of Education.

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? _x_ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? ASCD

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA_NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: Will be assistant director for summer institute for teachers studying experimental methodology and procedures this summer.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? More precise layout of which analyses--and how to carry them out--are best associated with which designs.

Other comments: It might have paid off to have examined a "systems approach" for the institute--to determine some specific learning objectives (types of analysis, specific measurement-experimentation relationships, etc.), to find out where various participants were in regard to these objectives and plan a goodly portion of instruction accordingly.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. _x_ Neutral: Neither glad nor sad. ___ It was worthwhile. ___ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category: (Relative to what?) At this point relatively neutral, but there seem to be definite possibilities for long-term benefits.

Attachment for Postdoctoral 5

My work in consulting, designing, implementing, or reporting any experimental work during the past nine months has been limited, in any tangible sense, to one study. This study resulted from the idea of one teacher to try something different in the teaching of a programmed book with slow readers--use of taped presentations of the frames to supplement reading by the pupils--over a period of about six weeks. In collaboration with this teacher, my role turned out to be designing the experiment, analyzing the data, and writing the first draft of the report. A randomized block design with some repeated measures was used; this perhaps would not have been used if it had not been for the summer session--mostly because of prior lack of appreciation of the robustness and power of the design. Hopefully, an article will be submitted for publication about this study within a month.

Other than this work and some work in writing proposals, any starts toward experimental work have been abortive. Two proposals were submitted from our school system to the U.S. Office within the past year, and I was a co-author on each. The first was a research proposal submitted last September, and it was rejected. The second was a curriculum development proposal submitted under Title III in November, and this was approved. The latter proposal had only a paragraph or two in it concerning evaluation of development efforts in a quasi-experimental sense.

Other than that work associated with the Title III proposal, there is the possibility of some experimental or quasi-experimental in our sophomore English program next year.

Postdoctoral 6

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: Greater awareness of pitfalls and sources of invalidity in design.

To analyze data resulting from experiments? _?_ Yes ___ No Please explain: No occasions have arisen where I have had to make use of the specific techniques we discussed, but I feel that when they do I will be better able to cope with them.

Have you begun or completed any experiments since 13 August 1965 ___ Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? State Department of Education, Consultant to Compensatory Education Evaluation Unit, December 1965.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little _x_ Moderately ___ A great deal In what respects? See comments to first item above. However, the "looseness" of most evaluation designs proposed by individual districts did not lend themselves to effective use of most material discussed in last summer's program.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: I find I am generally more critical and alert to extraneous influences which are inherent in such studies.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? _?_ Yes ___ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded). Finley, Carmen J., Thompson, J. M., & Cognata, A. J. Stability of the California Short Form Test of Mental Maturity: grades 3, 5, and 7. Calif. J. educ. Res., in press.

Finley, Carmem J. How well can teachers judge pupil achievement? The case of the illusive criterion. Calif. J. educ. Res., 1966, 17, 126-132. These were "in-progress" last year at this time and were completed after the summer program. I feel there was some influence due to the program but only indirectly since the major portion of the studies were planned and executed prior to the program.

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? _x_ Yes ___ No If so, from what source(s)? (1) ESEA, Title III, (2) Rosenberg Foundation.

For project(s) entitled (1) Establishment of a Regional Data Processing Center in County (serving 9 counties). (2) An Experiment in the Establishment, Expansion, and Operation of a Continuing Program of Research by the Teachers of County.

For how many dollars each? (1) $150,000 (2) $18,000

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None _x_ Little ___ Moderately ___ A great deal. Plese explain: The data processing grant was a joint effort together with 9 other centers in the state and not research oriented. The Rosenberg Grant, while potentially of more directly related activity, had to be slanted in a way that would interest the Board--which currently does not believe in "research" outside of academic circles. The principle, unfortunately applies to all granting agencies and the resulting compromises are often difficult to live with. In addition for me to submit a Federal proposal in most cases means prior hurdles at the state level--hurdles which are controlled by relatively few people. As a result, the inclination to write proposals of any kind is considerably dampened.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? APA, CACER, CERA

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of thos papers? (I already know your Feb. 1966 AERA-NCME contributions.) None

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (slaary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: While it is difficult to attribute the exact cause of this year's professional activities to last summer's program or to any other specific cause, there has been a noticeable increase in such activity including the following: 1) CEEB--appointed member of Committee on Research & Development; 2) Far West Laboratory for Ed. Research--appointed Sub-Regional Representative and provided consultant services; 3) U.S.O.E. project on Mexican-American children (awarded to Walter T. Plant, San Jose State College)...consultant on outside control group; 4) California State Dept. of Education, consultant, Compensatory Education Evaluation Unit; 5) CERA--elected president; 6) AERA--appointed to

committee on state and regional research associations.
I was also approached by and declined appointments to APA division 16, and APGA. In addition I was approached by the American Institute for Research on either a two-year position or 90-day consultancy on one of several overseas test development programs (also declined). A complete and up-dated personal data sheet is attached.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments?

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes x No
If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ____ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. x I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 7

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: I feel more confident in my theoretical background.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: See above.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: Effect of independent study on student learning.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? U.C. Academic Senate Committee on teacher effectiveness: teacher effectiveness; Center for Higher Education: the student, his changing attitudes and goals; U.C. College of Agriculture, The Migrant Worker; Change of direction for College of Agriculture, a project on Faculty research goals.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? I was better able to anticipate problems; and better able to communicate with investigators.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? Did basic design of analyses and interpretations.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: Improved general ability to read widely in field; increased contacts with specialists.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded): But in next two months I expect four articles to be "in press". Two are in manuscript form, two are in final analysis stages.

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes ___ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program: See above

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? The Entering Student: College of Agriculture (part of a 4-year longitudinal study) pub. Dec. 1965; The Home Economics Student, fall 1965, an extension of work begun before, but improved by the experience in summer work. The Engineering Students, and Their Faculty, June 1966.

Have you secured research contracts or grants subsequent to August 13? _x_ Yes ___ No If so, from what source(s)? State Department of Vocational Education; U.C. Chancellor's Research Fund; Academic Senate; Faculty Research Fund, Dean's Fund, College of Agriculture.
For project(s) entitled The Entering Student-A Study of a College in Transition; The Student in the College of Agriculture; The Changing Student; The Contem-Family: A Study of Family Patterns.
For how many dollars each: $6,400.00; $2,000; $1,000; $4,100.

Have you secured fellowships or research assistantships, for yourself and/or your student? _x_ Yes ___ No If so, please explain: Center for Research & Development in Higher Education. Also Intercampus Research Travel Grant. Visiting Fellow, summer 1966.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little _x_ Moderately ___ A great deal. Please explain: I was more able to write a concise proposal, and was more aware of the criteria involved in such a proposal.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? _x_ Yes ___ No Which conventions have you attended since August 13? CERA, CACER, AERA, APA, AHEA, WICHE, Society for Prof. & Bus. Engineers.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) CERA; Prof. Eng. Assn: Student Faculty Interaction, College of Engineering.

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately _x_ A great deal. Please Explain:

If you have taught courses with quantiative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses. Research Design and Analyses. AE 186 Especially Stanley's and Glass's lectures and the material distributed at the summer program.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: It increased my contacts throughout the field.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I would have liked to have had more opportunity for interaction with other participants. It would have been a marevelous opportunity to know well the "top cut" of young investigators throughout the country.

Other comments: I was generally pleased with the emphasis, the quality of the material presented.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what? Expect to give a paper at AERA in December but this is not yet confirmed.

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 8

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: The benefit derived from the program was indirect--more a matter of subsequent study stimulated by the program.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: See above.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: "Functional and Structural Sets in Learning and Recall of Complex Verbal Materials," "Cognitive Style and the Recall of Rote and Meaningful Material."

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? University Dept. of Educ. Psych. ANCOVA & Multiple Group Discriminant Anal; Monash University Dept. of Education--Use of Factor Scores as Predictor Variables in ANCOVA Designs.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects: To some extent in general sophistication, but primarily the program helped by stimulating an interest in design.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ____ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: Through informal contact with participants interested in

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? _x_ Yes ___ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program: "Functional and Structural Sets in Learning and Recall of Complex Verbal Material"--general facilitation by increased sensitivity to planned versus unplanned comparisons.

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? Paper entitled "Cognitive style and the recall of rote and meaningful material"--facilitation by general increased implication in ANOVA techniques.

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. N/K
Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? None

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) N/K

To what extent were these papers affected by your activities last summer?
___ None ___ Little ___ Moderately ___ A great deal Please explain: N/K

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: No other ways

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments?
The only unfortunate aspect of the program was the introduction of the testing session which did nothing to improve the atmosphere of the sessions--The formal work of Glass was 1st rate.

Other comments: Some time might have been spent indicating the relevance of multivariate techniques to experimental design.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No
If so, at which convention(s) and to present paper(s) entitled what?

Please esimate whether this paper or these papers resulted at least in part from the influences of the summer program. N/K

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worth while. _x_ I benefited a great deal.* ___ It was a hugely rewarding experience. Or devise your own category:

*Although the formal work of the summer program was interesting and worthwhile, for me the most rewarding aspect was the informal contact with colleagues who shared similar interests.

Postdoctoral 9

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: Reviewing and critiquing proposals.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: Reading final reports and reviewing proposals.

Have you begun or completed any experiments since 13 August 1965? ___Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Monitoring on-going projects.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects: Hard to summarize, but overall better understanding of strengths and weakness of various designs.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? Except in consultation.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? ___ Yes _x_ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes ___ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)? Not applicable--of course this may be true for a number of my answers.

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain: NA.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes ___ No Which conventions have you attended since August 13? NA

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain: NA

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes _x_ No ___ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: I have had a salary increase, but I do not believe it was due to my summer work.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? Afternoons might have been more structured, yet if they had been, there is a good possibility that much individual study time would have been lost.

Other comments: In all respects I was quite pleased with the summer program both as a student and I suppose as an observer. In brief, the program was excellently conducted.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes ___ No If so, at which convention(s) and to present paper(s) entitled what? Yes, but not applicable.

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worth while. ___ I benefited a great deal. _x_ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 10

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? ___ Yes _x_ No Please explain:

To analyze data resulting from experiments? ___ Yes _x_ No Please explain:

Have you begun or completed any experiments since 13 August 1965? ___ Yes _x_ No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? ___ Yes _x_ No If so, to whom and for what type of experiments?

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately ___ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes _x_ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13?

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes ___ No _x_ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation:

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? Get someone who actually did some substantive research himself. Modeling is a powerful teaching tool as you know.

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. _x_ Neutral: neither glad nor sad. ___ It was worthwhile. ___ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 11

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: Considerably greater confidence in use of basic designs, plus greater awareness of alternate possibilities.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: But to a more limited extent in comparison with first item.

Have you begun or completed any experiments since 13 August 1965 _x_ Yes ___ No If so, please list a short title for each: Aural vs. Visual Learning of Verbal Material by School Age Children and Adults.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? To my graduate students in child development.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal. In what respects? Better able to suggest alternative procedures, and to assist them in maximizing precision while avoiding design errors.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? Only as thesis adviser to grad. students.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? ___ Yes _x_ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes ___ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? Aural and visual judgment of time intervals by children. Completed replication of earlier study; will present final report to APA, Div. 7, New York City, Fall 1966. (Paper has been accepted.)

Have you secured research contracts of grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: (1) In cooperation with other academic departments, secured 8 fellowships for prospective teachers, for M.S. program in child development. (Not directly related to summer program at Madison, but anticipate students will profit indirectly from it.) (2) University has received grant for doctoral program in Educ. Research (U.S. Office of Educ.)--our dept. is cooperating.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? _x_ None ___ Little ___ Moderately ___ A great deal. Please explain: These requests were initiated independently by cooperating members of University staff, and would have been completed and probably awarded regardless of my cooperation.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? _x_ Yes ___ No Which conventions have you attended since August 13? AERA, Chicago--would probably not have attended were it not for summer program; otherwise no change.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses. I have an introductory course in research methods for grad. students in child development; course quality improved greatly as a result of summer work.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? My only suggestion is an egocentric one--I feel we needed two sections on statistics, one advanced at Gene Glass level, and one intermediate, *but* taught by a professional person with more teaching experience than the grad. assistants ~~Other comments:~~ could possibly have. For my money Glass is a first rate teacher, and the grad. students are no doubt highly qualified in basic stat.--what I'm saying is that we needed two levels of stat. courses with *both* conducted by experienced teachers.

Are you scheduled to appear on future conventions programs (e.g., American Psychological Association in New York City next September)? _x_ Yes ___ No If so, at which convention(s) and to present paper(s) entitled what? "Intersensory aspects of children's judgment of short time intervals"--Div. 7, APA, New York City.

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program. Had done original work prior to summer in Madison. On basis of consulting there, did complete replication with essentially same results. Would have attempted to report this anyway, *but* I feel it is a better report as a result of summer.

Everything considered, how glad are you *now* that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

In spite of clear limitations in quantitative ability, and in statistical sophistication, the effort of the summer was well worth it for me, and knowing what I know how, if the choice were to be made at this point I would definitely want to do it again. I profited from the contributions of all the staff, but the opportunity to get the thinking of Julian Stanley was the standout benefit.

If anything my general appraisal of the 1965 program has become even more favorable over the past year. I would want to do it again if the choice were to be made now. One of the "side benefits" not mentioned elsewhere is much greater ability to make use of statistical consulting available from specialists here. In spite of my obvious weakness in stat., it is easier to communicate with these people as a result of the program. I'll remain forever grateful for the experience and the contacts with you and the staff, as well as with the other participants.

Postdoctoral 12

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: I am generally much better prepared.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: I am, in particular, more comfortable with repeated measures problems.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: The Effectiveness of Pre-Student Teaching Experiences.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Supplementary Educational Center, for evaluation of programs.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? Better grasp of the area.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? Design specialist

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: Better understanding of the possible impact of several sources of variability.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes _x_ No What and how?

Have you secured research contracts or grants subsequne to August 13? _x_ Yes ___ No If so, from what source(s)? E.S.E.A.

For project(s) entitled Experimental Design for Local School Districts.*

For how many dollars each? $36,000

*In spite of late funding and limited publicity, the interest this institute has received has been very encouraging.

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately _x_ A great deal. Please explain: Completely impossible without

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? AERA, State Society of Music Educators

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) The latter,--Research in Music Education.

To what extent were these papers affected by your activities last summer? ___ None ___ Little _x_ Moderately ___ A great deal Please explain: It was a critical review with some suggestions which were easier to present.

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses. Taught a Winer-level course that would have been much harder work.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: Contact with one participant led me to succumb to the temptation to accept a new position at his university next year.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I am convinced that whatever creativity I possess was inhibited by placement of restrictions on what I felt I should be doing. In general, I felt the

Other comments: level of creative production by participants was depressed.

Are you scheduled to appear on future conventions programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what? But I have data which will probably be of considerable value for AERA or other bodies.

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program. Did so.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Now I would like to have frequent opportunity to attend AERA presessions in the future.

I spent the last two years doing what could be called "tooling up" of myself and my institution. This has been directed toward readiness for research into "differentiation of classroom teacher role." I believe I will continue to work in that general area with considerable emphasis and the evaluation problems that exist there. If so, the next several years should show marked growth in publication, at least some of which may be respectable from an experimental viewpoint.

I am now attempting to conduct a survey of needs for the regional lab. which will serve four states at least partially. It is possible that the core of my ideas will be incorporated into one of the projects of the region. If so, I will have had an impact even though I will not remain in the region.

Postdoctoral 13

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? x Yes ___ No Please explain: I picked up some skills in ANOVA, became more sensitive to design problems.

To analyze data resulting from experiments? x Yes ___ No Please explain: The above. Also obtained some programs which I and others have found helpful.

Have you begun or completed any experiments since 13 August 1965? x Yes ___ No If so, please list a short title for each: 1. Analysis of rights and wrongs scores (complete), 2. short period changes abilities (nearly complete), 3. Characteristics of MMPI scales (nearly complete), 4. Agreement among clinicians (nearly complete), 5. Patterns in responses of alcoholics (underway), 6. Learning styles as indicants of pathology (underway).

Have you served as a consultant on the design and analysis of experiments since August 13? x Yes ___ No If so, to whom and for what type of experiments? Canges, Ulehla, Little, Spilka, Potter, Shucard, Stewart, others. Mainly on measurement and correlational issues, but some on ANOVA and covariance problems, problems of pseudo-control, etc.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately x A great deal In what respects? General sensitivity to problems, etc.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? x Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? I included this, for the most part, in the above.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? x Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? x Yes ___ No If so, please explain how: Probably, I believe that an awareness of design issues and techniques in any area within what is broadly statistics measurement, etc. helps in dealing with problems seemingly mainly in sub-areas.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? x Yes ___ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded): I think my answer to this is yes, but I'm hard put to say just how my "in press" or "with editors" papers, of which there are about 10, were affected by what I learned at the summer session. But I think I have done a bit more ANOVA and covariance analyses than I might of done had I not gone to Wisconsin.

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? x Yes ___ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program: See above.

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? Might mention here a review for J.E.M. that I would never had done had it not been for the summer program.

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)? My NIMH grant proposal was in before 13 August.

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: One of my students, Mr. William Bramble, was awarded a MESA Fellowship at U. of Chicago largely because (a) one of the summer participants called me to ask me to have one of my better students submit application, and (b) the fact that I had studied at Wisconsin with Stanley carried some weight in my recommendations of this student.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately ___ A great deal. Please explain:

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? I generally avoid conventions like the plague. The one exception is SMEP, at which I presented this year, but this had nothing to do with the summer institute. I also attended our Little Rocky Mountain Conference, but I don't count that as a convention.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) I co-authored a paper at AERA, but only because Anderson was generous to include me as coauthor and because I didn't have to attend.

To what extent were these papers affected by your activities last summer? _x_ None ___ Little ___ Moderately ___ A great deal Please explain:

_If_ you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses. This, I think, is a very important area of benefit to me and those I have taught. I teach a good deal in the quant.-stats-design sequence and I am sure that I do a better job here as a function of my summer exposure.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: U. of Calif. at Berkeley has offered me a job (which I probably will not take); NYU Educ. Psychol. offered me a job. Both of these due to contacts made at summer institute (other job offers from U. Minn., U. West Virginia, NYU Psychology probably not influenced by summer program).

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I think probably that talent and experience of participants was spread too much to make for materially efficient program. For me, a program in which

Other comments: participants were more actively involved in shaping the course of discussion, more at the level of presenting problems and proposed solutions to each other and to directors, rather than the predominantly classroom-like orientation, would, I think, have been better.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in new York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what? As I say, I avoid conventions, particularly big, busy ones.

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category. Personal contacts I made have proved to be very rewarding, both professionally and otherwise; several lines of further study were opened up; I learned some skills, gained some worthwhile orientations, etc. In these various ways, then, the experience has turned out to be a considerable benefit. If I had the choice to make again, I'd go!

Postdoctoral 14

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: I believe I have done a better job in teaching the experimental design unit of the educational research course I teach and in assisting faculty and students to design research studies. I attribute these to last summer's guided study of the Campbell-Stanley and Cox references.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: I have been better able to work with ANCOVA.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: I am directing a $605,000 research and development project in evaluation. Several experimental studies will be included in this project, e.g., "Comparison of the Relative Effects of Process Evaluation and Experimental Design Evaluation on Goal Achievement"; "Effects of Variable Test Formats and Procedures on Learning"; "Comparison of Item and Examinee Sampling Procedures for Estimating Test Norms". Also, 4 "true" experiments were completed by my students.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? I assisted the division of School Psych. (OSU) by speaking to their interns on experimental design and by critiqueing proposals for experimental studies. I have also served as a consultant on evaluation to the state depts. of Ohio, Michigan and Ill.; the U.S. Office of Ed.; and several school district. (and industries)

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? I feel much more sensitive to the threats to validity in research, I have increased appreciation and understanding of the writings of the institute staff, and I feel more informed and able to participate in the experimental design vs. "process evaluation" debate which exists in the research methodology community.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? _x_ Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? In my educational research course, I divided the students into research teams and assisted each team to conduct a research study (through a final report) during the course. Four of the five studies thus far completed have been variable manipulating experiments.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? _x_ Yes ___ No If so, please explain how: My increased sensitivity to sources of invalidity has, I believe, assisted me to build more rigor in studies, which required quasi experimental designs, and to qualify interpretations. The latter is especially true in regard to my work with students and staff who have already collected data following faulty procedures.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes _x_ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? "Evaluation: A Concept in Need of Evaluation", THEORY INTO PRACTICE, June, 1966. The experience this summer helped me, to some extent, to clarify my position regarding the relation of experimental design to evaluation.

Have you secured research contracts or grants subsequent to August 13? _x_ Yes ___ No If so, from what source(s)? Public School System.

For project(s) entitled Research and Development in Program Evaluation

For how many dollars each? $605,000

Have you secured fellowships or research assistantships, for yourself and/or your students? ___ Yes _x_ No If so, please explain:

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? _x_ None ___ Little ___ Moderately ___ A great deal. Please explain: My position as director of the Evaluation Center, the proximity of the university to the city schools, and the emergence of the Elementary and Secondary Act of 1965 with the requirement for evaluation were, I believe, the primary factors.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? AERA, NCME, Conference of State Directors of Testing, Michigan Evaluation Conference.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) The NCME paper; Michigan Evaluation Conference EVALUATION UNDER TITLE I OF THE ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965 (keynote address).

To what extent were these papers affected by your activities last summer? _x_ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? ___ Yes _x_ No ___ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: None

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? You might divide the participants into research teams and have each team conduct an experimental study. A team would first write a proposal following the U.S. Office format and, if possible, including a PERT network. A different team would then serve as a review committee for the proposal. Once the proposal were accepted, the study would be conducted and written up.

Other comments: Many topics, such as the effects of different answer sheets on test performance or the effects of different type styles and sizes on reading speed and comprehension, would be manageable during a summer session. The procedure would bring students into closer working relationships than was the case last summer. And each student would be confronted with the full range of problems involved in experimentation. I have tried this approach with one of my graduate courses in educational research and have found that the students thought it worthwhile. Also, I believe that it has been much easier to teach concepts of research, since the students actually have to confront research problems.

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you *now* that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. _x_ I benefited a great deal. ___ It was a hugely rewarding experience. Or devise your own category:

Postdoctoral 15

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? _x_ Yes ___ No Please explain: Helped in my teaching, in my counseling, and in a talk I gave.

To analyze data resulting from experiments? _x_ Yes ___ No Please explain: More respect for Analysis of Covariance--; mult. comparison tests.

Have you begun or completed any experiments since 13 August 1965? _x_ Yes ___ No If so, please list a short title for each: A Test of Carrol's Model of School Learning.

Have you served as a consultant on the design and analysis of experiments since August 13? _x_ Yes ___ No If so, to whom and for what type of experiments? Faculty, students, and a national meeting.

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately _x_ A great deal In what respects? More aware of the literature.

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? ___ Yes _x_ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)?

Have you consulted or collaborated or purused alone research not strictly classifiable as controlled, variable-manipulating experimentation? _x_ Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? ___ Yes ___ No If so, please explain how:

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? _x_ Yes ___ No If so, please give the complete citation(s) and tell how it was facilitated (or retarded): (1) In the Service of Generalization, Psychology in the Schools Summer 1966, and

(2) Rules of Thumb for Writing the ANOVA Table (with Glass) in JEM

(1) Encouraged me to publish, gave suggestions for publisher and some helpful comments on manuscript.

(2) Actually worked on paper during summer.

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes _x_ No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? _x_ Yes ___ No What and how? A lengthy keynote address on Experimentation in Education delivered to a national research institute on research in Vo. Agriculture. Hope to do something with this. Made much use of summer content.

Have you secured research contracts or grants subsequent to August 13? ___ Yes _x_ No If so, from what source(s)?

For project(s) entitled

For how many dollars each?

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: Title IV--4 fellowships for train Research Methodologists. I cited my summer experience--that probably helped. I asked for 2 fellowships (grad) a year--they "begged" me to take more. (I said O.K. for 3 and 4 at most). I got 4.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None _x?_ Little _?_ Moderately ___ A great deal. Please explain: I just don't know.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? AERA(2) - NCME(1) in fall ETS 1 day conf.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) (1)The Measurement of Test Wiseness.

To what extent were these papers affected by your activities last summer? _x_ None ___ Little ___ Moderately ___ A great deal Please explain:

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___ Taught no such courses.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: (1) I got to know one faculty member was tremendously impressed--and hope to be a source of bother to him next year at his university. (2) Hope to help run an AERA presession.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments?

Other comments:

Are you scheduled to appear on future convention programs (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you *now* that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad. ___ It was worthwhile. ___ I benefited a great deal. _x_ It was a hugely rewarding experience. Or devise your own category.

Other comments I might make could be found in my evaluation at the conclusion of the conference.

Postdoctoral 16

Presumed Aftereffects of the 1965 Summer Program in Experimental Design

Have you seemed more able this academic year, because of the program:

To design experiments? x Yes ___ No Please explain: Work with graduate students has been helped greatly.

To analyze data resulting from experiments? x Yes ___ No Please explain: Same as above.

Have you begun or completed any experiments since 13 August 1965? ___ Yes x No If so, please list a short title for each:

Have you served as a consultant on the design and analysis of experiments since August 13? ___ Yes x No If so, to whom and for what type of experiments?

To what extent did the summer program seem to help you as such a consultant? ___ None ___ Little ___ Moderately ___ A great deal In what respects?

Have you collaborated substantially with others (either colleagues or students) on experiments since August 13? x Yes ___ No If so, to what extent did you function as a specialist in the design and analysis of the experiment(s)? Design primarily, but have been able to interpret analysis more effectively to graduate students.

Have you consulted or collaborated or pursued alone research not strictly classifiable as controlled, variable-manipulating experimentation? x Yes ___ No If so, does it seem that your eight weeks in the summer program helped you do this better than you would have done otherwise? x Yes ___ No If so, please explain how: It appears to be easier to identify variables and to specify the nature of the relationship among variables.

Have you published or do you have "in press" anything affected, directly or indirectly, by your summer-program participation? ___ Yes x No If so, please give the complete citation(s) and tell how it was facilitated (or retarded):

Do you have any manuscripts being considered by editors at the present time that were to some extent affected by your summer participation? ___ Yes x No If so, please give the title(s) and tell how it was facilitated or inhibited by the summer program:

Do you have other completed reports that owe something to your summer work? ___ Yes x No What and how?

Have you secured research contracts or grants subsequent to August 13? x Yes ___ No If so, from what source(s)? U.S. Office of Education.

For project(s) entitled Variables Affecting Decision Making in the Selection of Teachers.

For how many dollars each? Final contract not negotiated, but proposal included $76,531 from Federal, $23,287 from local. (total: $99,818).

Have you secured fellowships or research assistantships, for yourself and/or your students? _x_ Yes ___ No If so, please explain: Support for three graduate students and 1/3 time for myself in above grant.

To what extent, if any, do you believe that the summer program helped you secure the above contracts, grants, fellowships, and/or research assistantships? ___ None ___ Little ___ Moderately _x_ A great deal. Please explain: Proposal was written during the summer program, and a great deal of assistance was received from the participants, the instructors for the course, and the graduate assistants. The feedback was invaluable in modifying the proposal at various stages of development.

Does your attendance at professional conventions seem to have increased, at least partly because of the program? ___ Yes _x_ No Which conventions have you attended since August 13? State administrator's conferences, a conference sponsored by the Phi Delta Kappa Fraternity and the College of Education and AERA.

At which of these did you present or coauthor papers (including symposia presentations), and what were the titles of those papers? (I already know your Feb. 1966 AERA-NCME contributions.) Chairman of a panel discussion regarding research design at the Phi-Delta Kapp--Ed. College conference (one of my graduate students presented a paper on the contributions of theory to research design.)

To what extent were these papers affected by your activities last summer? ___ None ___ Little _x_ Moderately ___ A great deal Please explain: The requirements of the situation did not require the utilization of the level of material discussed at the summer program.

If you have taught courses with quantitative content, have you done so better because of the summer program? _x_ Yes ___ No ___Taught no such courses. I have used several ideas from last summer in a Seminar for Reaearch in Educational Administration.

Other ways (salary, professional recognition, etc.) in which your achievements were facilitated or hindered by your summer participation: I'm not sure that I have any specific information regarding whether this has been affected or not, but I feel rather sure that it has not been hindered.

How might the summer program have been conducted differently in order to help you better with the design and analysis of educational experiments? I have no other comments than those made at the end of the conference last August.

Other comments:

Are you scheduled to appear on future conventions program (e.g., American Psychological Association in New York City next September)? ___ Yes _x_ No If so, at which convention(s) and to present paper(s) entitled what?

Please estimate whether this paper or these papers resulted at least in part from influences of the summer program.

Everything considered, how glad are you now that you spent the eight weeks in Madison? ___ I'm sorry I did. ___ Neutral: neither glad nor sad.

___ It was worthwhile. ___ I benefited a great deal. _x_ It was a hugely rewarding experience. Or devise your own category: The actual work for the research project has not begun yet (other than selection of research assistants), so my main benefits to this point have been in my teaching and my work with graduate students. In each of these I think I benefited greatly from the experience. My analysis of problems are clearer--at least to me--and I think that I am dealing with more significant variables than I was previously. In addition, my reading of research reports has become much more critical, and I hope that my contributions to the AERJ as a consulting editor reflect the insights gained from the summer.

ERIC Resumé

A program in the design and analysis of educational experiments was held at the University of Wisconsin from 21 June through 14 August, 1965, under the co-directorship of Richard E. Schutz and Julian C. Stanley. Fourteen predoctoral and sixteen postdoctoral participants, representing twenty states, the District of Columbia, and Australia, attended three hours of lecture each morning and worked in small study-groups for three hours each afternoon. Faculty responsibilities were shared by Frank B. Baker (electronic computers and data processing), Gene V. Glass (statistical analysis), Richard E. Schutz (preparation of research proposals), and Julian C. Stanley (experimental design). Eight graduate assistants provided consulting, tutorial, and administrative services. Feedback via questionnaires completed by participants one year after the summer program indicated that twenty-nine of the thirty participants felt better able to design experiments and analyze resulting data after attending the summer program. A major value of the program in addition to actual course content proved to be the interaction during afternoon small-group work among instructors and participants of rather varied academic backgrounds. The present and prospective results of the eight-week program seem to justify the efforts of the staff and participants.